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Features • Articles

Editorials • Éditoriaux

- [The proof of the puddin'](#) -- John Wootton, MD
- [C'est au fruit qu'on juge l'arbre](#) -- John Wootton, MD
- [President's message: the SRPC's CME / locum program](#) -- Keith MacLellan, MD
- [Message du président : le programme de remplaçants et d'EMC de la SMRC](#) -- Keith MacLellan, MD
- [Rural hospitals in jeopardy](#) -- Rick Mann, MD

Original Articles • Articles originaux

- [Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison](#) -- Graham Worrall, MB; Darren Freake, MSc; Jeff Kelland; Andy Pickle; Tiffany Keenan
- [Introduction of laparoscopic appendectomy to a rural centre](#) -- Gary M. Soenen, MD

Regional Review • Actualités régionales

- [SMA survey of rural physicians](#) -- Allan Florizone, MA

The Practitioner • Le praticien

- [The occasional central vein catheter](#) -- Keith MacLellan, MD
- [Country cardiograms case 6](#) -- Jim Thompson, MD
- [Country cardiograms case 6: Biventricular acute myocardial infarction](#) -- Jim Thompson, MD

Off Call • Détente

Podium: Doctors Speak Out • La parole aux médecins

- [How to get the most out of rural medical life](#) -- Charles Helm, MD

Tales From Rural Practice • Les belles histoires de la pratique rurale

- [Chaos in the office](#) -- Suzanne Kingsmill, MSc

Departments • Chroniques

[Letters / Correspondance](#)

RuralMed: The SRPC Listserv / RuralMed : La liste postale de la SMRC

- [Obstetrics a hot topic](#) -- Suzanne Kingsmill, MSc

[Literature / Littérature scientifique](#)



The proof of the pudding'

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Can J Rural Med vol 2 (4):159

The College of Family Physicians of Canada (CFPC) has formed and funded a regional standing committee on rural medicine, and your editor has been appointed its first chair. Is this an important development for rural medicine in Canada?

This rhetorical question is posed in the knowledge that the only answer that can be given at this point is: "time will tell." There are, however, reasons for optimism.

The relationship between established organizations (such as the CFPC) and emerging organizations (such as the Society of Rural Physicians of Canada [SRPC]) is never easy, especially when the context in which they are operating is one of frustration and some suspicion. Nevertheless, each organization is uniquely placed to act within its sphere of influence, and failure to do so in a coordinated fashion would represent a missed opportunity.

What needs to be done? As the SRPC has repeatedly pointed out, a great deal! Only recently have established organizations put rural medicine onto their agendas. The original clarion call of the SRPC remains as true today as it was in 1993 when its first president stated: "It is not that there is a plan to destroy rural health care, but that there is no plan to save it. . . ."1 Clearly we are at the early stages of developing a plan, and the resources of the CFPC, and its commitment to family medicine, are critical elements to bring to bear on this issue.

The first issue that has been singled out for special attention by the committee is training for rural medicine. To address this, a subcommittee has been created that will examine the issue in the context of the WONCA report,² which was officially endorsed by the board of the CFPC in 1996. Dr. Jim Rourke, one of the authors of the WONCA document, will chair this subcommittee, which will include representatives from the SRPC and from the Royal College of Physicians and Surgeons of Canada.

What can these committees accomplish? The only thing that is certain about committees is that they meet. Commitment to action requires a process that is goal driven, limited, focussed, practical and realistic. It requires consensus and flexibility among the partners, the commitment of resources and support at the highest levels of the organization.

To this end it is significant that the rural committee and its subcommittees will include SRPC members, an acknowledgement by the CFPC that it cannot act successfully in isolation, without substantial input from the field. By bringing into the process the point of view of non-college rural physicians, who in many parts of the country carry the burden of the majority of the rural medical work, this new collaboration will be in the best interests of both organizations in the long run.

The pudding, however, has yet to provide its "proof." The rural committee of the CFPC must first elaborate a recipe, order the ingredients and prepare its meal of rural issues. Hopefully, rural doctors will be at the table with us throughout the process because, ultimately, your collective review will be the only one that counts.

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C'est au fruit qu'on juge l'arbre

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Can J Rural Med vol 2 (4):160

Le Collège des médecins de famille du Canada (CMFC) a créé et financé un comité permanent régional sur la médecine rurale dont votre humble serviteur a été nommé le premier président. Est-ce important pour la médecine rurale au Canada?

Nous posons la question pour la forme en sachant que la seule réponse possible pour le moment, c'est : «On verra avec le temps». L'optimiste est toutefois de mise.

Le lien entre les organisations établies (comme le CMFC) et des organisations nouvelles (comme la Société de la médecine rurale du Canada [SMRC]) n'est jamais facile, surtout qu'elles fonctionnent dans un contexte de frustration et jusqu'à un certain point de soupçons. Chaque organisation se trouve néanmoins dans une position unique d'agir à l'intérieur de son cercle d'influence et celles qui ne le font pas de façon coordonnée ratent une occasion.

Que reste-t-il à faire? Comme la SMRC l'a signalé à maintes reprises, énormément! C'est récemment seulement que les organisations établies ont inscrit la médecine rurale à leur programme d'activité. L'appel aux armes lancé à l'origine par la SRMC demeure aussi vrai aujourd'hui qu'il l'était en 1993 lorsque le premier président de la Société a déclaré : «Ce n'est pas qu'il y a un plan qui vise à détruire les soins de santé ruraux : c'est plutôt qu'il n'y a pas de plan pour les sauver...»¹. Il est clair que nous en sommes au tout début de l'élaboration d'un plan et que les ressources du CMFC et son engagement envers la médecine familiale peuvent jouer un rôle crucial en la matière.

La première question à laquelle le comité a décidé d'accorder une attention spéciale, c'est la formation en médecine rurale. À cette fin, on a constitué un sous-comité qui étudiera la question dans le contexte du rapport WONCA2, que le conseil d'administration du CMFC a approuvé officiellement en 1996. Un des auteurs du document WONCA, le Dr Jim Rourke, présidera le sous-comité qui regroupera des représentants de la SMRC et du Collège royal des médecins et

chirurgiens du Canada.

Que peuvent faire ces comités? Tout ce qu'il y a de certain à leur sujet, c'est qu'ils se réunissent. L'engagement d'agir passe par un processus dicté par les buts, limité, focalisé, pratique et réaliste. Sans oublier le consensus et la flexibilité entre les partenaires, l'engagement des ressources et l'appui aux niveaux des plus élevés de l'organisation.

À cette fin, il importe de signaler que le comité de la médecine rurale et son sous-comité comprendront des membres de la SMRC. Le CMFC reconnaît ainsi qu'il ne peut réussir dans l'isolement, sans une contribution importante des intervenants locaux. En mobilisant les points de vue des médecins ruraux non membres du CMFC qui, dans de nombreuses régions du pays, effectuent la majeure partie des interventions médicales rurales, cette nouvelle collaboration sera à long terme dans le meilleur intérêt des deux organisations.

L'arbre n'a toutefois pas encore produit de «fruits». Le comité de la médecine rurale du CMFC doit d'abord préparer le sol, planter l'arbrisseau et l'amener par ses soins à maturité. On espère que les médecins ruraux contribueront au processus parce qu'en bout de ligne, votre réaction collective sera la seule qui comptera.

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President's message: the SRPC's CME/locum program

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I don't know about you but I am fed up with the usual continuing medical education (CME) offered in our town where the drug rep lines up a pliant specialist from the city to talk about the latest cholesterol lowering drug, the "event" being hosted in some ritzy joint. Many of you are so remote that even this type of CME is nonexistent. There is also the telemedicine telephone conference where you listen to a little speaker phone in the middle of a large table during a "lunch." Alternatively, you might travel, at great expense, to a conference held far from home and listen to speaker after speaker at 20-minute intervals throughout the day. I always doze off after lunch. Meanwhile, your patients at home are likely signed out to the emergency room because you could not get a locum. Do you ever retain anything practical for these expensive and hard earned "maintenance of competence" credits?

The SRPC is trying to change this situation by launching the CME/Locum program. It assumes that:

1. Rural docs learn better if taught by their peers. The point is, "I don't know everything about this subject, I schlepp away as you do, but here is how I handle this situation or do this procedure."
2. Rural docs want practical, cheap, accessible learning, preferably at home.
3. Rural docs usually need locums, even if it is just for a night or a weekend.

The SRPC has organized its national conferences to address the first 2 assumptions and has built up an array of rural speakers and workshops. So why not send these teachers out to rural communities, where, because they are rural physicians, they won't be frightened to do a bit of emergency coverage, operating room or office work as well as teach?

We are starting with 8 2-hour hands-on workshops, covering many aspects of critical care, and

given by rural docs with a particular interest in the field. These are listed on page 159. As the program progresses, other workshops, such as ones on palliative care, women's health and psychiatry, will be added. At press time, the first CME/locum team, consisting of a rural general surgeon, a GP anesthetist and a rural GP, all from Quebec, is gearing up to visit St. Anthony, Nfld.

Communities can ask for any workable number of workshop leaders to come to their area to give the sessions, repeated any reasonable number of times. The SRPC will arrange for the teachers to be licensed to do short term locums. Part of the money pharmaceutical companies and others now spend on CME events will go for travel costs. The Canadian Medical Association is interested in providing administrative support and helping us to find block funding. Licensing fees will be paid out of the small sums charged for the workshops. The College of Family Physicians of Canada will be asked to provide educational credits and to host "Train the teachers" workshops. The SRPC teachers will get to see other parts of the country while making some money. If you are interested, either as a registrant or as a potential teacher, let us know.

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Message du président : le programme de remplaçants et d'EMC de la SMRC

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Can J Rural Med vol 2 (3):162

Je ne sais pas ce que vous en pensez, mais j'en ai assez de l'éducation médicale continue (EMC) que l'on offre habituellement dans notre ville et qui consiste à voir un représentant d'une société pharmaceutique recourir à un spécialiste de la métropole pour parler du dernier hypocholestérolémiant et organiser «l'événement» à un endroit luxueux. Beaucoup d'entre vous sont si loin qu'ils ne peuvent profiter même de ce type d'EMC. Il y a aussi les conférences téléphoniques sur la télémédecine pendant lesquelles on écoute un petit haut-parleur placé au milieu d'une grande table pendant un «déjeuner». Par ailleurs, vous pouvez aussi vous rendre à grands frais à une conférence organisée loin de chez-vous et écouter conférencier après conférencier prendre la parole à intervalles de 20 minutes pendant toute la journée. Je m'assoupis toujours après le déjeuner. Pendant ce temps, vos patients sont probablement envoyés à la salle d'urgence parce que vous n'avez pu vous trouver de remplaçant. Vous rappelez-vous jamais quoi que ce soit de pratique après avoir acquis ces crédits de «maintien de la compétence» à grands frais et après de gros efforts?

La SMRC essaie de changer la situation en lançant le programme d'EMC/dépannage. On suppose que :

1. Les médecins ruraux apprennent mieux si ce sont des pairs qui leur enseignent. Ce que je veux dire, c'est : «Je ne connais pas tout sur la question. Je patauge comme vous, mais voici comment je m'y prends dans ce cas ou pour exécuter cette intervention.»
2. Les médecins ruraux recherchent un apprentissage pratique, bon marché, accessible, de préférence chez eux.
3. Les médecins ruraux ont habituellement besoin des des dépanneurs, même si c'est seulement pour une soirée.

La SMRC a organisé ses congrès nationaux de façon à tenir compte des deux premières

hypothèses et a constitué un bassin de conférenciers ruraux et une série d'ateliers. Pourquoi donc ne pas envoyer ces conférenciers dans des localités rurales où, parce qu'ils sont déjà médecins ruraux, ils n'auront pas peur de faire un peu de relève à l'urgence, à la salle d'opération ou au bureau tout en enseignant?

Nous commençons par huit ateliers pratiques d'une durée de deux heures qui portent sur de nombreux aspects des soins critiques et sont animés par des médecins ruraux qui s'intéressent particulièrement à ce domaine. Vous en trouverez la liste à la page 159. À mesure que le programme avancera, nous ajouterons d'autres ateliers sur les soins palliatifs, la santé des femmes et la psychiatrie, par exemple. Au moment d'aller sous presse, la première équipe d'EMC/dépannage, constituée d'un chirurgien général, d'un anesthésiste OP et d'un OP rural, tous du Québec, se prépare à se rendre à St. Anthony, à Terre-Neuve.

On peut demander à accueillir n'importe quel nombre pratique d'animateurs d'atelier qui donneront les séances et pourront les répéter autant de fois que ce sera raisonnable. La SMRC prendra des mesures pour que les formateurs soient autorisés à faire de brefs remplacements. Une partie de l'argent que les sociétés pharmaceutiques et d'autres intervenants consacrent maintenant à des activités d'EMC servira à défrayer les frais de voyage. L'Association médicale canadienne est intéressée à fournir des services de soutien administratif et à nous aider à trouver du financement global. Les frais de licence seront payés à même les frais modestes de participation aux ateliers. On demandera au Collège des médecins de famille du Canada d'accorder des crédits d'éducation et d'animer des ateliers de «formation des formateurs». Les formateurs de la SMRC auront l'occasion de visiter d'autres régions du pays tout en gagnant un peu d'argent.

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Rural hospitals in jeopardy*

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Can J Rural Med vol 2 (3):163-65

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*This editorial is an abridged version of a Discussion Paper on Rural Hospitals, which was prepared by Dr. Mann for the Ontario Medical Association's Section on Rural Practice.

The survival of rural hospitals in Ontario is in jeopardy. The hospitals are threatened by budgetary restraints, government restructuring and attempts to impose urban solutions on rural communities, to name but a few of the issues. The Ontario Medical Association's Section on Rural Practice believes it is imperative for rural Ontarians and for rural health care that these hospitals continue to exist. This paper presents the reasoning that supports this belief.

Rural is different from urban and has its own needs

Rural hospitals play a unique role in the whole spectrum of hospital and health services. They are not merely scaled down versions of their city counterparts, and cannot be viewed as such in the arguments for closure. The ratios and regulations set up for urban hospitals cannot be transposed to the rural setting. For example, bed-to-population ratios and occupancy rates are different in rural and urban hospitals. A universal number cannot be set that is appropriate for both settings. Occupancy rates in small hospitals must be lower to accommodate fluctuations in admissions: in rural settings one is not able to divert the ambulance to the other hospital in town or admit the patient to the hospital down the street.¹

Other factors, such as distance and transportation resources, mean that people may have a slightly increased length of stay in a rural hospital. If Mrs. Smith lives 20 km outside town, with no public transit, little support, and it is the middle of winter, she might spend an extra day in

hospital recovering from surgery rather than risk the chance of running into a complication and being unable to access care. This is not a common scenario in urban centres, but it is a reality in rural communities. The shift to outpatient care (e.g., outpatient surgery) has an impact on inpatient bed census, but should not and cannot be used to suggest the closure of a rural hospital because its inpatient census is low.

Rural hospitals provide all inclusive medical care in one facility

Rural hospitals provide a menu of basic services tailored to the needs of the community. This includes emergency care, maternity care and inpatient treatment of common medical problems. In a 1990 survey of Ontario hospitals with fewer than 100 beds, Rourke found that these hospitals, which accounted for just over 10% of the total acute care beds in Ontario, in the course of a year had 1 239 085 emergency and outpatient visits, 10 646 deliveries (including 1748 cesarean sections), 33 155 general anesthetics given and 25 008 major general surgery operations done.² They provide these services within the competence of the local health care providers.³

In his 1995 report,⁴ Scott stated: "rural medical practice is different from urban and suburban practice." Most rural physicians have active admitting privileges to their community hospital and are responsible for the care of their patients while in hospital. They tend to be generalists, and provide care for a variety of health needs during the patient's lifetime. Many do obstetric deliveries, anesthesia, assist in surgery and work shifts in the emergency department. They provide not only primary care, but selected secondary and tertiary care. They do all this in a cost-effective manner: because they know their patients and their conditions, they can often prevent unnecessary duplication of tests and procedures.

By acting as satellite clinics, rural hospitals look after patients in their own community who would otherwise have to travel to larger centres for care. This is seen today with chemotherapy and dialysis; the care plan is put together in the larger centre but carried out closer to home. The rural hospital usually serves as a focus for physician practices and other health care services.² Without the hospital these services are not available, because health care professionals and services tend to be located in communities with hospitals.

Rural hospitals attract physicians

Pirani and colleagues noted that rural hospitals provide access to services, equipment and support services that physicians need and would otherwise be unable to provide. They state that a hospital is important in helping communities attract and retain physicians.⁵ This was borne out in October 1996, when a survey of physicians in Bruce and Grey counties in Ontario showed that 80% of the physicians in those 2 counties would leave if their rural hospital closed. As Henderson⁶ stated: "Rural communities are best served by family physicians with broad-based skills who reside in those communities and who have active privileges at the local hospital." This fact must be taken into account as the provincial government attempts to modify physician resources. It is not

logical to close hospitals so important to the work of the rural physician and, at the same time, try to increase physician numbers in these communities. Nor is it wise, because demographics indicate that more people are moving to rural areas and that the aging baby boomers, with their medical needs, will create more, not less, need for rural hospitals.⁷

Rural hospitals fire up the economy

Rural hospitals have significant impact on the local economy. They are often one of the town's largest employers. In 1981, Christianson and Faulker reported that rural hospitals contributed on average between \$700 000 to \$1 000 000 (US) to local economies.⁸ Hospital employees spend money in the community, and the hospital purchases services from local businesses. Thus, the economic stability of rural communities is affected by hospital closure.

Home care in the country can be too difficult

Rural Canada is sparsely populated and, due to distances, weather and isolation, difficulties arise in providing home care efficiently and cost effectively. The rural hospital inpatient setting may provide more cost-effective and consistent care than home care programs.

Closure may contravene the Canada Health Act

The Canada Health Act contains the concept of equitable access for all Canadians to good health care. Rural patients have the right to expect quality health care and the availability of emergency care within the so-called "golden hour." However, rural communities fall significantly short of the basic tenets, as set out in the Canada Health Act, compared to those in urban communities with immediate access to "high-tech," specialty-oriented emergency care.

Closure would cause hardship on residents

Closure of a rural hospital has documented repercussions in the community. In 1983, Hernandez and Kalnzny⁹ found that it resulted in lower quality of care, decreased access to physician services, fewer employment possibilities and increased health care expenditure per capita. This last point -- increased health care costs -- is a finding shared by other researchers.^{10,11} When there are no local alternatives, closure of a rural hospital may result in loss of reasonable access to emergency and acute care.¹²

The closure of rural hospitals and emergency departments within these facilities "would result in increased time and distance to basic emergency care with a corresponding increase in morbidity and mortality."¹³ Barriers to care that also affect outcomes include road conditions, terrain, inclement weather, traffic patterns and availability of transportation.¹⁴ There is little or no public transportation in rural areas, and what there is has been reduced and threatened by bus-line deregulation. With the recent cutbacks in the Ontario Ministry of Transportation's budget,

sanding and salting of roads has been reduced. Taxis are few, if any, and can be expensive.

Rural hospitals are not a drag on provincial budget

If the rationale for closing rural hospitals is economic, there would not be a significant savings if all the rural hospitals were closed because they make up such a small amount of the total hospital budget. The 1995-96 allocation for hospitals with fewer than 50 beds was 5.6% of the total Ontario hospital budget. The allocation for 50- to 100-bed hospitals was 4.3% (Heather Stewart, Small Hospitals Group, Ontario Hospital Association: Personal communication, February 1997). In fact, in closing rural hospitals it is probable that the aggregate costs would rise because patients would be sent to more capital-intensive and expensive urban hospitals. The inpatient diagnostic and procedural mix of rural hospitals demonstrates that they provide inexpensive and cost-effective care for common medical and surgical conditions of low complexity.³ As Hart and coworkers summarized in 1990:³ "Given the fact that they [rural hospitals] are relatively inexpensive, and in the absence of [any] evidence that they provide suboptimal care they should be stabilized" and remain open.

Rural hospitals provide quality care

In terms of quality of care, there is copious evidence that excellent outcomes in areas such as obstetrics can be achieved in rural hospitals and there is no reason to believe this is not the case for other medical interventions.³

Summary

Ontario's rural hospitals are threatened by factors that are mostly economic in nature. Many arguments suggest that the closing of a rural hospital has significant negative economic consequences on the local community and on the provincial health care budget. Demographic data suggest that rural Ontario will see a surge in population over the age of 50 in the next 20 years.⁷ This sector requires more hospital and health care resources. It therefore makes no sense to close hospitals in rural Ontario. They should perhaps even be expanded. Rural physicians are different from their urban counterparts and are more procedure-oriented, caring for their patients in the hospital setting. They require the appropriate tools; this includes a local hospital.

Finally, rural hospitals are not smaller versions of their urban cousins. The 20% of the Ontario population that has chosen to live in a rural community deserves nothing less than high quality health care. This is provided by rural physicians working in rural hospitals.

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Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison

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[\[résumé\]](#)

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This paper has been peer reviewed.

Contents

- [Abstract](#)
- [Résumé](#)
- [Introduction](#)
- [Methods](#)
- [Measures of blood sugar and lipid control](#)
- [Discussion](#)
- [References](#)

Abstract

Objectives and method: To compare rural and urban family physicians' compliance with the Canadian Diabetes Association (CDA) guidelines for the care of patients with non-insulin-dependent diabetes mellitus (NIDDM). To compare blood sugar control levels in patients with NIDDM being cared for by rural or urban family physicians, using levels of glycosylated hemoglobin (HbA1C) as a surrogate measure of glycemic control.

A retrospective medical chart audit was undertaken. With standardized forms based on the CDA guidelines, information about blood sugar and lipid level control, presence of diabetes complications and physician management parameters was extracted from the medical charts of 118 patients with NIDDM in 6 rural and 4 urban family physicians' offices in Newfoundland. Seventy patients were from rural practices and 48 were from urban practices. Fifty-five patients were male, 63 were female and the mean age of the sample population was 64 years.

Main outcome measures: Family physician compliance with 9 procedures recommended by the CDA guidelines and glycosylated hemoglobin (HbA1C) levels.

Results: Compliance with CDA guidelines was in general somewhat low (mean 5.72 out of 9), compliance of rural physicians (mean = 5.36) was less than that of urban physicians (mean = 6.25). Patients of rural physicians appeared to have a similar degree of diabetes control when compared to patients of urban physicians (mean HbA1C: rural = 0.079, urban = 0.081), despite having fewer physician interventions, laboratory tests and referrals to dietitians. Fewer rural patients than urban patients used home monitors and fewer were taking insulin. Despite the poor compliance with guidelines, 87% of patients who had their HbA1C checked had levels in the optimal or acceptable range.

Conclusions: CDA compliance in a sample of 10 family physician practices was poor, with rural practices being less compliant than urban ones. Using HbA1C as a surrogate outcome measure of patient diabetes control, rural and urban physicians seemed to be doing equally well, despite fewer interventions by rural physicians. However, these results should be interpreted with caution, as this patient sample was small and HbA1C measurement was recorded in only about 50% of the patients. Further research into the possible differences in the care given to rural versus urban patients with NIDDM is suggested.

Résumé

Objectifs et méthode : Comparer dans quelle mesure les médecins de famille urbains et ruraux observent les lignes directrices de l'Association canadienne du diabète (ACD) au sujet du soin

des patients atteints de diabète sucré non-insulino-dépendant (DSNID). Comparer les taux de contrôle de la glycémie chez les patients atteints de DSNID traités par des médecins de famille ruraux ou urbains en utilisant les taux d'hémoglobine glycosylée (HbA1C) comme taux substitut pour mesurer le contrôle de la glycémie.

On a entrepris une vérification rétrospective des dossiers médicaux. Au moyen de formules normalisées fondées sur les lignes directrices de l'ACD, on a extrait, des dossiers médicaux de 118 patients atteints de DSNID dans les cabinets de six médecins de famille ruraux et de quatre médecins de famille urbains de Terre-Neuve, des renseignements sur le contrôle de la glycémie et de la lipidémie, la présence de complications diabétiques et les paramètres de traitement des médecins. Soixante-dix patients provenaient de pratiques rurales et 48, de pratiques urbaines. Il y avait 55 hommes et 63 femmes et la population témoin avait en moyenne 64 ans.

Principales mesures des résultats : Observation par les médecins de famille de neuf interventions recommandées dans les lignes directrices de l'ACD et taux d'hémoglobine glycosylée (HbA1C).

Résultats : L'observation des lignes directrices de l'ACD était en général faible (moyenne de 5,72 sur 9), et moins élevée chez les médecins ruraux (moyenne = 5,36) que chez les médecins urbains (moyenne = 6,25). Le diabète des patients des médecins ruraux a semblé contrôlé autant que celui des patients de médecins urbains (HbA1C moyenne : ruraux = 0,079; urbains = 0,081), malgré le nombre moins élevé d'interventions du médecin, des analyses de laboratoire et des présentations à des diététiciens. Moins de patients ruraux que de patients urbains utilisaient des moniteurs à domicile et prenaient de l'insuline. Même si les lignes directrices sont mal observées, 87 % des patients qui avaient fait vérifier leur HbA1C présentaient des taux qui se situaient dans la plage optimale ou acceptable.

Conclusions : Les lignes directrices de l'ACD étaient peu observées par un échantillon de 10 pratiques de médecine familiale, et les pratiques rurales les observaient moins que les pratiques urbaines. Si l'on utilise le taux de HbA1C comme moyen substitut de mesurer les résultats du contrôle du diabète chez les patients, les médecins ruraux semblent obtenir des résultats aussi bons que leurs collègues urbains même s'ils interviennent moins souvent. Il faut toutefois interpréter ces résultats avec prudence, car l'échantillon de patients était restreint et l'on a consigné le taux de HbA1C dans environ 50 % seulement des cas. On suggère de mener des recherches plus poussées sur les différences possibles au niveau des soins administrés aux patients ruraux atteints de DSNID par rapport à ceux que reçoivent les patients urbains.

Abbreviations: CDA (Canadian Diabetes Association), FBS (fasting blood sugar), RBS (random blood sugar), HDL (high-density lipoprotein), TG (triglycerides), HbA1C (hemoglobin A1C = glycosylated hemoglobin), NIDDM (non-insulin-dependent diabetes mellitus)

[[Top of document](#)]

Introduction

Is the medical care provided by family physicians to patients with diabetes who live in rural areas any different from the care that urban patients receive from their family physicians? The evidence is sparse and confusing. In Taiwan, people with diabetes who lived in 5 rural areas were found to have better blood glucose control, with a higher percentage under regular treatment, than people in 2 urban areas.¹ Results from a mobile eye-screening clinic in England showed a greater prevalence of advanced diabetic retinopathy in patients living in rural areas and suggested regular screening of patients was less efficient there.² A study in the United States (Alabama, Iowa and Maryland)³ found that diabetic patients covered by Medicare, who were receiving care from rural practitioners, were less likely to receive the recommended services. In Britain, however, urban and inner-city practices generally fell behind practices in rural and suburban areas in terms of services provided for people with diabetes.⁴

Family physicians generally play a large role in providing care to people with diabetes. The CDA's Clinical Practice Guidelines for Diabetes Mellitus⁵ provides the standard for the care of patients with diabetes by primary care physicians. Implicit in these guidelines is the conviction that patients with diabetes will receive benefit from tight control of blood sugar levels, as suggested by the results of the Diabetes Control and Complications Trial,⁶ although this trial was conducted exclusively on people with insulin-dependent diabetes. As such it is not yet certain that the results can be extrapolated to the large population of people with NIDDM who are cared for by family physicians.⁷

The present study involved Caucasians suffering from the most common type of diabetes -- NIDDM or Type II diabetes,⁸ who were receiving care from their family physician in Newfoundland, where the prevalence of diabetes is the same as in other parts of Canada.^{8,9}

The primary objective of our study was to compare the level of compliance of rural and urban family physicians with the CDA guidelines for diabetes care in the community.⁵ The secondary objective was to compare blood sugar control levels in patients with NIDDM being cared for by rural or urban family physicians, who were using levels of glycosylated hemoglobin (HbA1C) as a surrogate measure of glycemic control.

[[Top of document](#)]

Methods

Ethical approval for this study was obtained from the Human Investigations Committee of the Faculty of Medicine, Memorial University of Newfoundland. The study was a retrospective chart review conducted in 10 family medicine clinics in Newfoundland; 6 clinics were rural and 4 were urban. The clinics were randomly selected from the Newfoundland Trials, Research and

Education Network for Family Physicians -- NEWTREND -- a group of 104 family physicians on the Avalon Peninsula of Newfoundland who have been willing to take part in research projects. Three medical student research assistants (A.P., J.K. and T.K.) were trained to extract data from family physician office charts. Approximately 2 weeks prior to the start of the study, each clinic received a form to record the chart numbers of the next 10 to 20 consecutive patients with a current diagnosis of NIDDM, present for at least 1 year, who visited the clinic. To be included in this study, patients had to identify the study clinic as their source of regular diabetes care. Using a standardized form based upon the CDA clinical practice guidelines, the following data were extracted from each patient's chart:

- Measures of physician management:
 - a. Number of visits to family physician in the past year
 - b. Number of diabetes-related laboratory blood tests performed in the past year, taken from the following list: HbA1C, FBS, RBS, cholesterol, HDL and TG
 - c. Number of physical check-ups done in the past year
 - d. Current medications for diabetes
 - e. Referrals to dietitian, ophthalmologist, neurologist or nephrologist
- Blood sugar and lipid control measurements:
 1. The most recent HbA1C level
 2. Mean of fasting blood sugar determinations done in the past year
 3. Mean of random blood sugar determinations done in the past year
 4. Most recent total cholesterol level
 5. Most recent HDL level
 6. Most recent triglyceride level
- Presence of complications: was there a notation of
 1. Retinopathy: loss of vision?
 2. Nephropathy: microalbuminuria, albuminuria or renal failure?
 3. Neuropathy: any neurologic symptoms or signs?
 4. Other lower limb complications: foot sores or amputations?
- Patient ownership of reflectance glucometer

Some of the blood sugar and lipid control measurements were compared to the CDA's recommended optimal, acceptable and compromised levels. Some of the collected data were used to estimate physicians' compliance with CDA guidelines. We counted 9 parameters: blood pressure check, HbA1C measurement, FBS/RBS measurement, cholesterol level, weight check, urinalysis, foot examination and eye examination by the family physician within the past year (we were generous because the CDA guidelines suggest that most of these measurements be taken every 6 months) and whether there had ever been a referral to an ophthalmologist. A physician who was perfectly compliant with the guidelines would have done all 9 procedures, a less compliant physician would have done fewer procedures.

Descriptive statistics were used to characterize the patient population and to assess physicians'

adherence to the CDA guidelines. Chi2 tests were used to assess differences between proportions, and independent t-tests were used to test differences between means. An alpha level of 0.05 was designated as indicating statistical significance. Data were analysed using the Quattro Pro spreadsheet package,¹⁰ Epi Info¹¹ and SPSS for Vax.¹²

[[Top of document](#)]

Results

In 6 rural and 4 urban clinics, the charts of 118 patients with NIDDM were reviewed. The charts of 70 patients (34 males, 36 females) were from the rural clinics and 48 (21 males, 27 females) were from the urban clinics. The mean age of rural patients was 64.6 years, with a mean duration of diabetes of 6.1 years; the mean age of urban patients was 63.1 years, with a mean duration of diabetes of 8.2 years. There were no significant differences between rural and urban patients for any of these demographic features (all $p > 0.05$).

Physician compliance with guidelines

[Table 1](#) shows the percentage of rural and urban patients who had some or all of the 9 recommended CDA procedures done. Overall, the compliance rate with the 9 procedures was low; the overall mean rate was 5.72. There was a small but significant difference with respect to the mean number of procedures done by rural (5.36) and urban physicians (6.25) ($t_{116} = 3.02$, $p < 0.01$). All patients had had their blood pressure checked and had had either an FBS or an RBS measurement in the past year. Comparison of rural and urban patients with respect to the proportion who had the cholesterol level measured, weight checked, urinalysis, foot examination, eye examination and ophthalmologist referral indicated no statistical differences (all $p > 0.05$). However, significantly fewer rural patients (37.1%) had had an HbA1C test in the past year than the urban patients (77.1%) ($\chi^2 = 18.25$, $p < 0.001$). [Fig. 1](#) shows rural and urban physician compliance with the guidelines.

Physician management parameters are shown in [Table 2](#). There was no significant difference between the mean number of visits made by rural patients and the mean number made by urban patients ($t_{116} = 0.94$, $p > 0.05$). There was, however, a small but significant difference between rural and urban patients in the mean number of diabetes-related laboratory blood tests done in the previous year ($t_{116} = 2.60$, $p < 0.025$), with urban patients having more tests than rural patients.

A majority of patients were taking oral medication to control their diabetes. There were significantly fewer rural than urban patients taking insulin ($\chi^2 = 4.83$, $p < 0.05$), and therefore significantly more rural patients taking oral hypoglycemic medications ($\chi^2 = 4.36$, $p < 0.05$).

The most common referral for both rural and urban patients was to an ophthalmologist. There

were no significant differences in the referral rates of rural and urban patients to ophthalmologists, neurologists and nephrologists (all $p > 0.05$), but there was a significant difference in the dietitian referral rate, with the rate for rural patients being lower than for urban patients ($\chi^2 = 11.89$, $p < 0.001$).

[[Top of document](#)]

Measures of blood sugar and lipid control

Shown in [Table 3](#) are the mean HbA1C, FBS, RBS and total cholesterol levels for rural and urban patients and, for comparison, the recommended standard levels from the CDA guidelines. No significant difference was found between the mean HbA1C levels ($t_{60} = 0.39$, $p > 0.05$) of rural and urban patients. Of the 53% of patients who had an HbA1C measurement, most had optimal or acceptable levels according to CDA standards. For rural patients 88% and for urban patients 87% of those tested had optimal or acceptable HbA1C levels, with no significant differences between proportions ($\chi^2 = 0.05$, $p > 0.05$). There were no significant differences in age or gender between patients who had HbA1C testing and those who did not, but there was a significant difference for the duration of diabetes ($t_{112} = 2.34$, $p < 0.025$) for these patients.

Although the percentage of rural patients (48.6%) who had an FBS test was significantly less than the percentage of urban patients (77.1%) ($\chi^2 = 9.66$, $p < 0.002$), there was no significant difference between the mean FBS levels of rural and urban patients ($t_{69} = 1.08$, $p > 0.05$).

Approximately half of those who had an FBS test had optimal or acceptable levels; the proportion tested with optimal or acceptable levels was a little higher for rural patients (53%) but was not significantly different from that of urban patients (46%) ($\chi^2 = 0.35$, $p > 0.05$).

There was no significant difference in the proportion of rural (90.0%) and urban (91.7%) patients who had an RBS test ($\chi^2 = 0.09$, $p > 0.05$). No significant difference was found between the mean RBS levels of rural and urban patients ($t_{105} = 0.07$, $p > 0.05$). Of those who had an RBS test, the proportion of rural patients (67%) with optimal or acceptable RBS levels, according to CDA standards, was not significantly different from the proportion of urban patients (73%) ($\chi^2 = 0.45$, $p > 0.05$).

There was no significant difference in the mean cholesterol levels between rural and urban patients ($t_{72} = 0.19$, $p > 0.05$). For those who had their cholesterol checked, an optimal or acceptable cholesterol level was found in 55% of rural patients and 63% of urban patients; there was no significant difference between these proportions ($\chi^2 = 0.45$, $p > 0.05$).

Presence of complications and home glucometer ownership

A comparison of the rates of retinopathy, nephropathy (presence of albuminuria or renal failure),

neuropathy and lower limb disease between rural and urban patients is shown in [Table 4](#). There were no significant differences between rural and urban population proportions with respect to any of these measures (all $p > 0.05$).

Over half of the patients had chart notations indicating they owned a home glucometer. Ownership of a monitor was significantly less common in the rural patients (44.3%) than in the urban patients (75.0%) ($\chi^2 = 10.95$, $p < 0.001$). The mean HbA1C of patients with monitors was 0.082, whereas the mean HbA1C of patients without monitors was 0.078.

[[Top of document](#)]

Discussion

Neither rural nor urban physicians showed a high level of compliance with the CDA clinical practice guidelines for the care of patients with diabetes. Of the 9 CDA-recommended procedures that we audited (and these were the bare minimum of the recommendations in the guidelines), urban physicians performed a mean of 6.25 procedures and rural physicians performed a mean of 5.36 procedures. Our results were similar to those found in a large US urban health maintenance organization,¹³ where physicians performed a mean of 4.9 of 8 recommended procedures.

Physicians were much more compliant with some procedures than others; all patients had their blood pressure checked, 83% had a weight check, 54% were referred to an ophthalmologist, 42% were seen by a dietitian and blood tests were commonly done. Other procedures were done much less often; only 31% had a foot check and 29% had an eye check recorded by their family physician. On average, both rural and urban physicians were visited by their diabetic patients approximately once a month; there was clearly ample opportunity for patients to raise concerns about their diabetes and for physicians to monitor the progress of the illness.

We found that although rural family physicians saw their patients as often as did urban physicians, they ordered fewer blood tests on their patients and referred them to dietitians less frequently. They tested HbA1C and FBS less frequently and far fewer of their patients used home glucose monitors. Despite this, the level of diabetes control of their patients, using HbA1C as a surrogate measure, was no worse than the level of control of the urban patients, who had received more interventions; nor were FBS and RBS levels different between urban and rural patients.

These results are perplexing. On the one hand, it is clear that both rural and urban family physicians were not overly compliant with the recommended management guidelines. Our results could be viewed as a "wake-up call" for physicians to improve their care of patients with NIDDM. On the other hand, 87% of tested patients had optimal or acceptable levels of HbA1C, and there was no difference in HbA1C levels between rural patients, who had fewer interventions, and urban patients.

Perhaps not all procedures suggested in the diabetes care guidelines will make a difference in changing patient outcomes, and family physicians are, knowingly or not, avoiding over-enthusiastic adherence to unproven measures of care; at present, evidence is lacking as to which care procedures are effective in improving patient outcomes in diabetes.¹⁴ Even if we did know which procedures are effective, the behaviour of family physicians would still have to be changed to improve compliance with guidelines; a recent British study of why physicians change their clinical practice showed that doctors are slow to change, continuing medical education -- the way most doctors learn about clinical guidelines -- has only a small part to play, and that other factors were more important to them.¹⁵

Some argue that the current target levels for metabolic control in people with NIDDM are too lax, and the American and Canadian diabetes associations are soon to bring out new guidelines, which will advocate more stringent glyceemic control. If we had accepted only optimal as a level of good control, the proportions of tested patients with the required levels of HbA1C, FBS, RBS and serum cholesterol in our sample would have dropped from 87%, 49%, 69% and 58% to 57%, 14%, 43% and 30%, respectively. These levels are not something to be complacent about.

There is evidence that diabetes education can lower hospital rates for people with diabetes and that patient education is an important predictor of improved metabolic control.¹⁶ Diabetes education was not available to most of the patients in our survey, but -- in theory at least -- the advice of a dietitian was available. Even though we found that the referral rate of rural patients to a dietitian was significantly less than that of urban patients, rural patients' blood sugar and HbA1C control was no different from that of urban patients. This situation may seem counterintuitive, but there were obviously other factors which could have had an effect on the metabolic control of the patients in our study.

The present study has several limitations. It was retrospective; although the physicians were selected randomly, patients were a convenience sample, and we made the assumption that all information pertaining to this study was recorded in the patient's chart. The number of charts reviewed (118) was small, and the percentage of patients who had HbA1C testing (53%) was also small. These shortcomings reduce the generalizability of our findings. Further research will need to be done to replicate our findings and to explore the possible existence of other differences between the rural and urban management of diabetes.

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[[Top of document](#)]

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Introduction of laparoscopic appendectomy to a rural centre

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[\[résumé\]](#)

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Contents

- [Abstract](#)
- [Résumé](#)
- [Introduction](#)
- [Methods](#)
- [Results](#)
- [Discussion](#)
- [Conclusion](#)
- [References](#)

Abstract

Objective and method: To evaluate and compare the open and laparoscopic approaches to appendectomy in a rural hospital through retrospective review of the charts of 77 consecutive patients presenting between Jan. 1, 1994, and Feb. 1, 1996, with suspected appendicitis.

Interventions: After Oct. 1, 1994, all patients presenting to the Canadian-trained general surgeon from the group of doctors performing the surgeries were considered for laparoscopic appendectomy.

Main outcome measures: Length of stay, postoperative use of analgesia, hospital costs and operating time.

Results: Laparoscopic appendectomy was associated with a significantly shorter hospital stay (1.39 days v. 2.37 days, $p < 0.01$) and a significantly reduced analgesia requirement (26.9 v. 48.3 morphine equivalents, $p < 0.025$). Operative times were not statistically different. Laparoscopic surgery resulted in a 30% reduction in total hospital costs.

Conclusions: Open appendectomy is associated with a significantly increased length of hospital stay, increased postoperative pain and increased total hospital costs compared with laparoscopic appendectomy. Laparoscopic surgery should be considered the gold standard treatment for appendicitis.

Résumé

Objectif et méthode : Évaluer et comparer l'appendicectomie sanglante à l'appendicectomie par laparoscopie dans un hôpital rural au moyen d'un examen rétrospectif des dossiers de 77 patients consécutifs qui se sont présentés entre le 1er janvier 1994 et le 1er février 1996 et chez lesquels on soupçonnait une appendicite.

Interventions : Après le 1er octobre 1994, on a envisagé de procéder à une appendicectomie par laparoscopie chez tous les patients qui se sont présentés au chirurgien général qui a reçu sa formation au Canada et qui faisait partie des médecins chargés de pratiquer les interventions.

Principales mesures des résultats : Durée du séjour, utilisation d'analgésiques après l'intervention, coûts hospitaliers et durée de l'intervention.

Résultats : On a établi un lien entre l'appendicectomie par laparoscopie et la réduction marquée de la durée de l'hospitalisation (1,39 jour c. 2,37 jours, $p < 0,001$) et une réduction très marquée du besoin d'analgésique (26,9 c. 48,3 équivalents-morphine, $p < 0,025$). La durée des interventions n'était pas différente sur le plan statistique. L'intervention chirurgicale par laparoscopie a réduit de 30 % les coûts hospitaliers totaux.

Conclusions : On établit un lien entre l'appendicectomie sanglante et le prolongement considérable de la durée de l'hospitalisation, l'augmentation de la douleur après l'intervention,

une augmentation des coûts hospitaliers totaux comparativement à l'appendicectomie par laparoscopie. Il faudrait considérer la laparoscopie comme l'étalon or du traitement de l'appendicite.

[[Top of document](#)]

Introduction

In recent years, laparoscopic appendectomy has been reported to hold a number of significant advantages over open appendectomy.¹⁻⁹ They include a shorter hospital stay, reduced analgesic requirements postoperatively, faster postoperative recovery, greater diagnostic accuracy and fewer wound infections. Despite these reported advantages many surgeons continue to view the procedure as too difficult, time-consuming and costly to perform on a routine basis. In this study, an attempt is made to shed further light on questions of hospital stay, analgesic use, cost and other factors.

[[Top of document](#)]

Methods

Seventy-seven patients who underwent open (43) or laparoscopic (34) appendectomy between Jan. 1, 1994, and Feb. 1, 1996, were included in this study. Incidental appendectomies and interval appendectomies were excluded from the analysis. Only those patients whose surgery was performed for suspected appendicitis were included. All patients were assessed with respect to age, leukocyte count, sex, hospital stay and analgesic use. Appendicitis positivity and perforation rates were calculated for open and laparoscopic groups. Extra costs associated with laparoscopic appendectomy as well as total hospital costs were also calculated. All operations were performed by a Canadian-trained general surgeon (who performed all the laparoscopic appendectomies), a British-trained general surgeon, or 1 of 2 GP surgeons.

Beginning in October 1994, all cases (39) of possible appendicitis referred to the Canadian surgeon were considered for diagnostic laparoscopy. Two patients were rejected for the laparoscopic approach: 1 because of the presence of a large palpable mass, the other because of the presence of diffuse peritonitis. In the remaining 37 patients, 3 required conversion to open procedures after diagnostic laparoscopy suggested severe or unsuspected disease (abscess with vascular compromise of the ileum, perforated cecal diverticulitis with abscess and perforated appendiceal abscess).

Laparoscopic appendectomy was successfully completed in the remaining 34 patients.

The laparoscopic procedure was performed by placing a 10-mm Hasson trocar through the umbilicus, using the open technique. Under direct vision, a 5-mm trocar was placed suprapubically and another 5-mm trocar was placed in the left lower quadrant just off the midline, halfway between the suprapubic and Hasson trocars. A 5-mm 30° laparoscope was used for all cases, allowing visualization through any of the 3 ports. The mesentery of the appendix was generally divided after clipping, and the base of the appendix was doubly ligated with several catgut endoloops. Retrieval of the appendix was accomplished through the Hasson trocar or an endocatch bag.

Statistical analysis was performed on the data by Student's t-test and standard error of the difference between 2 percentages. Laparoscopic and open procedures were compared for all cases and for appendicitis cases only.

Total hospital costs were calculated with use of the Alberta Health Care per diem rates for inpatient stay as well as the actual dollar costs of any "extra" equipment used in laparoscopic surgery. The equipment costs of open surgery were regarded as being nil. Since the laparoscopic equipment had already been in use for several years in the rural hospital for cholecystectomy, there were no initial capital costs that needed to be factored in.

[[Top of document](#)]

Results

Laparoscopic and open groups were found to be comparable with respect to mean age of patients, their leukocyte count and sex distribution, and the perforation rate. Appendicitis, confirmed histologically, was present in 76% of laparoscopic cases and in 79% of open cases (not statistically significant). Hospital stay was shorter for laparoscopic cases than for open cases (1.39 days v. 2.37 days, $p < 0.01$). Postoperative analgesic use was reduced for laparoscopic cases (26.9 v. 48.3 morphine equivalents, $p < 0.025$). Although laparoscopic appendectomy took less time to perform than the open procedure (mean, 46.4 minutes v. 52.1 minutes), this difference was not statistically significant. The conversion rate was 8% (3 of 37 diagnostic laparoscopies). Equipment costs associated with laparoscopic appendectomy over and above those in an open case were calculated to be \$133 per case. Average hospital costs for laparoscopic and open cases were \$807.26 and \$1149.45, respectively. (Because these were calculated values based primarily on length of stay data, statistical analysis was not performed.)

[[Top of document](#)]

Discussion

Laparoscopic appendectomy is technically feasible in most patients with appendicitis and there

are no specific contraindications. Appendiceal phlegmons, perforation and appendicitis in pregnant women can effectively be dealt with laparoscopically. When the diagnosis is in question, laparoscopy affords a more accurate diagnostic approach to the patient who must undergo operative therapy.^{3,10} The abdomen can be thoroughly irrigated, and drains can be placed into abscess cavities through trocar sites, as needed.

Most studies in the literature have suggested a shorter hospital stay and decreased analgesic requirements as well as an earlier return to work for patients who undergo laparoscopic appendectomy.^{3,4,9,10} However, the technique of laparoscopic appendectomy has not been consistent in any of these studies. Some surgeons use 4 10-mm trocars, some use 12-mm trocars, and some use a combination of 10s and 5s. The advantage of the technique presented here is the use of as many small trocars as possible.

One common criticism of laparoscopic appendectomy is the excessive length of time it takes to perform. Some authors, however, have found there is no significant difference in operating times between laparoscopic and open procedures.^{3,7} In this study, laparoscopic appendectomy took less time to perform than open procedures, but the difference was not statistically significant. The long operating time seen in many studies is very likely attributable to operator inexperience rather than a defect in the procedure.

Wound infection rates between the 2 procedures were not assessed in this study because of the small sample size. However, numerous studies^{4,5,7} have demonstrated a significantly reduced infection rate, which is probably secondary to the fact that the infected appendix does not come into direct contact with the surgical incision. The appendix is either withdrawn into a trocar completely before the trocar is removed or else it is placed into an endoscopic bag before removal.

Total hospital costs were reduced by 30% when a laparoscopic appendectomy was performed, and these savings came primarily from a reduced hospital stay. The theoretic total cost savings for all 34 laparoscopic cases was \$11 634.46. This assumes that, ultimately, beds would be closed as a direct consequence of shortened stays. However, even if beds aren't closed, hospital costs for things such as casual nursing staff may be reduced. This would be particularly noticeable in a hospital that uses a large pool of casual nurses on an "as needed" basis. Costs likely could be reduced further by the total use of nondisposable trocars.

The length of hospital stay for laparoscopic appendectomy in this study was only 1.39 days, one of the lowest reported in the literature. Similarly, the length of stay for open appendectomy was only 2.37 days. These short hospital stays likely represent the efficiency of a rural centre, where surgery can be performed very quickly after the patient arrives at the hospital. The patient's presurgery hospital stay is likely reduced compared with that of an urban hospital because of the usual immediate access to the operating room.

Although open appendectomy remains a safe and effective treatment for appendicitis, some rural surgeons with laparoscopic capability may wish to consider adding laparoscopic appendectomy to their surgical armamentarium. The technique is relatively easy to master and does not require complex skills such as suturing or knot tying. Mentoring for the procedure remains a problem however, since many Canadian tertiary care centres have not progressed as rapidly in their advanced laparoscopic skills as have US centres. Numerous US courses throughout the year are ongoing, however.

[[Top of document](#)]

Conclusion

Laparoscopic appendectomy is an effective mode of management for acute appendicitis and provides distinct advantages over the open technique. Open appendectomy is associated with a longer hospital stay, more postoperative pain and possibly a greater cost to the health care system.

[[Top of document](#)]

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SMA survey of rural physicians

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Rural health care has been a major concern of the Saskatchewan Medical Association (SMA) for many years, particularly as it relates to the recruitment and retention of physicians and the provision of reasonable patient access to the health system.

Following the 1989 fee-for-service agreement, the Rural and Remote Incentives Fund was established to encourage recruitment and retention of rural doctors. Subsequently, under the direction of its Committee on Rural Practice (CORP), the SMA developed 4 programs to pursue these objectives: a short-term locum service, a student bursary fund, a rural extended leave program and a rural travel fund.

Although the programs have been well received by rural physicians, they have not been significant enough to address the substantial problems experienced by rural practitioners. Figures obtained from the Saskatchewan Health Medical Services Plan indicate that 52% of rural physicians were turned over between the 1992/93 and 1996/97 fiscal years. With recruitment becoming increasingly difficult, CORP increased its emphasis on keeping existing physicians practising in the province.

To assist in the development of new programs and incentives, the CORP directed SMA staff to undertake a survey of rural practitioners during October 1996. The survey was broken into 4 major sections. The first section involved questions surrounding rural lifestyle characteristics and their importance when establishing rural practice. The second section focused on sources of physician satisfaction and dissatisfaction. In the third section, physicians were asked to rate various incentives to assist in retention and recruitment. Finally, to help determine the scope of retention/recruitment issues, physicians were asked their career plans over the next 1 to 5 years.

SMA survey of rural physicians

In the first 2 weeks of October 1996, the SMA conducted the mail survey. Questionnaires were sent to the 215 fully and provisionally licensed physicians in rural Saskatchewan. The list was derived from the SMA data bank of doctors residing in communities with a population of less than 10 000. Physicians working in "bedroom" communities near Saskatoon and Regina metropolitan areas were not included in the sample.

Responses were obtained from 127 doctors. This represented a response rate of approximately 59%. This return rate was excellent considering the limited time physicians were given to answer the survey (approximately 10 days), as well as the fact that no follow-up contact with nonrespondents was made.

A client identification number was placed on each survey. This enabled responses to be linked to SMA databases containing demographic information (e.g., age, sex, country of origin) and a database of licensing information.

Survey demographics

With regard to demographics, the survey sample appeared to be a fair representation of physicians in rural practice.

- In the SMA administrative databank, 13% of rural doctors were women. The proportion of female survey respondents was approximately 12%.
- Eighty-three percent of rural doctors were fully licensed (an indicator of mobility). The same percentage of survey respondents fell into this category.
- The average age of rural doctors was 47.2 years. The average age of survey respondents was slightly lower, at 46.8 years.
- [Table 1](#) shows the distribution of rural doctors and survey respondents by origin (where they obtained their first medical degree). Physicians who obtained their first degree from Saskatchewan, Africa and the United Kingdom were slightly over-represented in the sample. Graduates from other Canadian provinces and other foreign countries were slightly under-represented.
- The results will be slightly skewed toward characteristics of rural group practice. Approximately 51% of rural doctors were in group practice. The proportion of survey respondents working in group practice was 59%.

Survey results

Practice/lifestyle issues

Physicians were asked to rate a number of factors that influenced their decision to practise in rural Saskatchewan ([Fig. 1](#)). Each was rated on a scale from 1 to 5, with 1 being "extremely important" and 5 being "not at all important."

Overall, rural doctors cited the wide spectrum of practice as their most important reason to establish rural practice. Attractiveness of the rural community to their spouse and considerations of their children were also important factors. Just over 40% of respondents rated financial considerations as a very or extremely important factor in their decision to practise rural medicine.

Physicians were then asked to rank their top 3 factors. Spectrum of practice was cited most frequently as the top factor (30%), followed by financial considerations (21%). When the 3 top choices were tabulated together (most important, second most important, third most important), spectrum of practice and financial considerations were again cited most often.

Physician satisfaction

Respondents were asked to rate their satisfaction with a number of characteristics affecting their practice and lifestyle ([Fig. 2](#)). Rating was done on a scale of 1 to 5, with 1 being "extremely satisfied" and 5 being "extremely dissatisfied."

Looking only at levels of dissatisfaction, it appears that the ability to take time off from work, as well as the hours of work, are the 2 largest sources of dissatisfaction in rural practice.

The unhappiness with working hours was not surprising, given the onerous on-call requirements in rural practice. Almost one-quarter of rural doctors were on call 24 hours per day, 7 days per week. Only about 10% of rural physicians had on-call arrangements that were better than 1 in 4 ([Fig. 3](#)).

For many practitioners, the call intensity or number of patients seen was light. The average number of patients seen during a 24-hour on-call shift was 16. This suggests that the remuneration obtained strictly through fee for service may not provide adequate compensation for a physician providing standby medical support to a community.

Physicians were asked what they thought would be a fair premium for on-call coverage. Responses ranged from as little as \$3/h to \$250/h, with a mean of approximately \$52/h.

When respondents were asked to identify the characteristic that they were most dissatisfied with, the ability to take time off and long work hours were again cited most often, with 31% and 15% of responses respectively. Declining status in the health care system was also a large source of discontent, with 11% of respondents ranking this as their primary source of dissatisfaction.

When the first, second and third most important sources of dissatisfaction were grouped together, the same order was observed for the top 3 factors (ability to take time off, work hours and professional status).

There were substantial differences in the results between group and solo practitioners. From the top 3 sources of dissatisfaction, solo practitioners most frequently cited the ability to take time off (20%) as their major source. Second and third most frequently cited were their opportunities for CME (15%) and their status in the health care system (12%) respectively. The most frequently cited sources of discontent for group practitioners were: ability to take time off (18%), hours of work (17%) and cultural opportunities (10%).

With regard to physician satisfaction, professional freedom and professional satisfaction were rated the highest among rural doctors ([Table 2](#)). The next most often cited sources were the availability of acute care facilities and housing. The order of these top 4 factors changed only marginally when the top 3 sources were grouped together. No respondent ranked cultural considerations or the status of physicians in the health care system as their top source of satisfaction.

Technologies in rural medicine

Information technologies are often cited as a means to improve the efficacy and viability of the rural health care system. For rural practitioners, technologies could include Internet access and telemedicine. The Internet could be used as a source of medical information (clinical practice guidelines, medical journals), and telemedicine could link remote rural doctors and patients with specialists. As well, telemedicine links could be used to enhance CME.

The survey asked physicians if the addition of information technologies would aid them in conducting their practice. Approximately 60% of respondents felt that technology could assist with their practice. Of these, 90% felt that technologies would need to be subsidized before they would consider using them.

Incentives/enhancements for rural practice

Respondents were asked to rate a number of program options to assist in the retention and recruitment of physicians in rural Saskatchewan ([Fig. 4](#)). In general, rural doctors rated most of the options as very or extremely important. Over 80% of those surveyed identified a fee-for-service pay differential for rural doctors as very or extremely important. Similar results were obtained for an additional on-call stipend, and for a tax break or incentive for rural physicians. The lowest rated option -- assistance to establish group practice -- still received a very or extremely important rating from approximately 40% of respondents.

When asked to identify the top incentive the CORP should pursue, 32% chose the fee-for-service pay differential for rural practitioners. An additional on-call payment and an enhanced physician placement service for recruiting locums were cited second and third most often.

When the top 3 choices were tabulated together, the preference order was changed somewhat. The pay differential was still first, followed by a tax break and on-call payment. Enhanced locum recruitment and 2 weeks paid holidays each year were cited fourth and fifth most frequently.

Future career plans

Rural physicians were asked to indicate their career plans over the next 1, 3 and 5 years ([Table 3](#)). Most respondents intended to continue practising medicine in rural Saskatchewan during the next year. Only two-thirds of those surveyed intend to be practising in the next 3 years, while approximately 4 out of every 10 doctors intend to practise in rural Saskatchewan in the next 5 years. If physicians were considering leaving their practice, they were much more likely to move to another province or to the US, rather than to another rural or urban practice within Saskatchewan.

The results were not surprising given the history of high physician turnover. They highlight the ongoing need to improve retention as well as recruitment of physicians in rural Saskatchewan.

Update of events in rural Saskatchewan

In November 1996, physicians in Humbolt served notice to their district health board that they would be unable to continue providing the current level of on-call service, because of the shortage of physician resources in their town. Subsequent negotiations with the board and provincial government led to the adoption of a flat \$55/h rate for providing emergency room on-call service on weekends and statutory holidays.

In February 1997, the Saskatchewan government announced a weekend relief program for small rural emergency rooms, where on-call service was more frequent than 1 in 3. Funding of \$1500 per weekend was made available to cover itinerant physician services every third weekend.

In December 1996, the CORP increased funding for the locum relief program. In addition, 2 new rural programs were introduced: a signing bonus to assist in establishing rural practice, and funding for 2 family medical residents and 2 rural physicians to take an additional year of training in obstetrics, anesthesia, general surgery, psychiatry, emergency medicine or geriatrics.

The SMA continues to press the government for programs to address the on-call issue. As well, the SMA is currently discussing rural enhancement options with the government within the context of fee-for-service negotiations.

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The occasional central vein catheter

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There are at least 3 conditions that make central vein catheters occasionally useful in rural areas:

1. When infusing dopamine for shock: Dopamine can, in a pinch, be given peripherally via a secure large bore catheter. However, extravasation is an outright disaster causing extensive tissue necrosis even with instant local administration of vasodilators (usually not stocked in hospitals). Central vein catheters avoid this disastrous, if rare, complication. Central vein catheters can also become extravascular and produce hemohydrothorax and/or pneumothorax.
2. When needing to infuse large volumes of fluid in an unstable patient with known heart failure or with a fresh myocardial infarction: Although central vein pressure is sometimes not a reliable indicator of impending heart failure and despite the fact that one can monitor for overload clinically, the technique is still valuable in many situations. It would be used more often if doctors would learn to master it.
3. When no other veins can be found peripherally, either because of collapse or because of thrombosis: It is a particularly quick way of gaining access close to the heart in arrest or trauma situations, and unlike saphenous cutdowns, it is above the liver and inferior vena cava, which might be lacerated and/or obstructed.

Central venous catheters, especially the so-called introducer set, or Cordis, also allow any variety

of single, double, triple lumen catheters, Swan-Ganz catheters or pacing catheters to be used interchangeably through the introducer port, while allowing rapid fluid infusion through the side port (Fig. 1).

Central venous access

Central veins can be accessed peripherally (through the basilic vein in the arm) or through the femoral vein. Usually the subclavian or jugular veins are used. The jugular veins afford an easy and direct path to the superior vena cava, but the approach is psychologically more upsetting to the patient and the inexperienced doctor. I suggest you start with the subclavian approach.

Use the right subclavian vein because threading of catheters through the left subclavian needs more fiddling and can sometimes go awry.

The worst complication is a pneumothorax. If you do not know how to put in a small chest tube (See CJRM 1996;1(1):20-3 [[full text](#)]) make sure there is someone around who knows how to do it before proceeding. A pneumothorax is rare and usually will not occur at all if you are careful. Puncture of the subclavian artery requires no special measures other than compression supraclavicularly. You must be extremely aggressive or uncoordinated to cause any major damage. First year surgery or internal medicine residents often do this procedure unsupervised. I assume you know proper aseptic techniques, including the fact that povidone-iodine takes a few minutes (almost to drying) to have a full antiseptic effect.

Many companies sell kits with drapes, antiseptics, anesthetics and all the needles and catheters in 1 carton. Get these -- they are more expensive, but you will not be doing these procedures that often in your rural hospital (Fig. 2).

After prepping and draping, ask the patient to bring his or her shoulders as flat as possible to the table in order to straighten the subclavian vein. A little roll of towel between the shoulder blades helps. Put the patient in mild Trendelenberg position to distend the vein and help prevent air embolism.

Fig 1. CVP catheter with introducer port and side port.



Fig. 2. CVP kit.



Study your anatomy and make sure you know the path the vein takes before performing the procedure. Using a 10 mL syringe filled with xylocaine 2%, raise a weal under the skin at the junction of the middle and distal thirds of the clavicle, approximately where there is a natural infraclavicular hollow. Raise the weal 1 to 2 finger breadths under the clavicle or you will bend the needle as it goes under the bone. Advance the needle, injecting xylocaine and withdrawing as you go. You will actually scrape the undersurface of the clavicle with the tip of the needle, which will be pointing toward the sternal notch. It helps to keep 1 finger of your other hand in the sternal notch of the patient for direction (Fig. 3). As with starting an IV, keep your mind on the point of the needle: Where is it? How far in is it?

Fig. 3. Aim for the sternal notch.

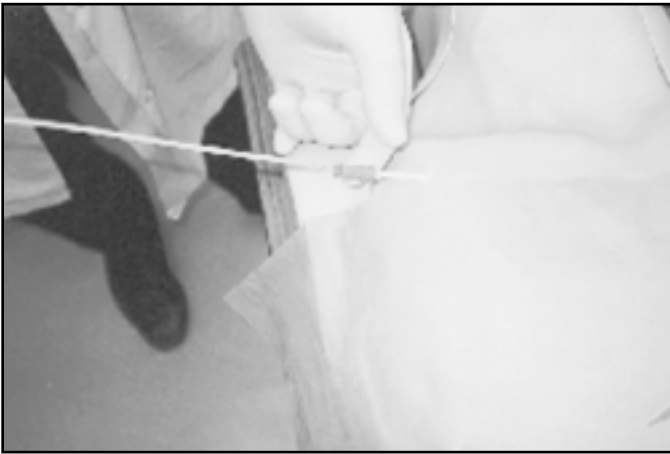


If you use a standard 1 1/2-inch 22-gauge needle for this procedure, you may not reach the subclavian vein, but you will freeze most of the area. Most kits have longer needles which will reach the vein, letting you know the track to take. Follow the same procedure as above with the kit needle attached to an empty 10 mL syringe. Enter with the needle bevel side up, rub against the underside of the clavicle and aim for the sternal notch while aspirating. Do not change the direction of the needle once you start inserting it under the clavicle. If necessary, withdraw the needle and start again at a new angle. If your original angle is not successful at maximal penetration, you can try pointing the needle more medial to the sternal notch, but remember that this will lead you more toward the dome of the lung (especially in patients with emphysema). When the needle enters the vein, turn the syringe and needle 90° so that the bevel faces the notch. Ask the patient to stop breathing, detach the syringe, put your thumb over the hub and then thread the guidewire or catheter (depending on the kit) through the needle into the vein (Fig. 4). It should go in easily. If it does not, withdraw the needle and wire together and repeat the attempt. When inserting the wire, monitor the patient's ECG for PVCs, and if they occur, retract the wire. Once a guidewire is in the vein, remove the needle and use the kit's progressively larger dilators to widen the path (Fig. 5). Then thread the catheter over the guidewire and remove the guidewire. Hook up the catheter to an IV after you are sure all the air has been removed from the system.

Fig 4. Thread the guide wire through the needle.



Fig. 5. Widen the path with dilators.



Conclusions

This is 1 way of gaining central venous access. It is relatively easy to learn, and once learned, it will stick with you. The care you can offer your sicker patients, with or without transport will be much safer and better. A week in any ICU will teach you to use the technique wisely. And yes, if someone like me can do it, so can you.

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Country cardiograms case 6

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"Country cardiograms" is a regular feature of the Canadian Journal of Rural Medicine. In each issue we will present an electrocardiogram and discuss the case in a rural context. Submit cases to Dr. Jim Thompson, Canadian Journal of Rural Medicine, Bag 5, Sundre AB T0M 1X0; jthomps@telusplanet.net

See also:

- Letter: [Country cardios and Colles' fracture](#)

Case presentation

A 66-year-old man presented to a rural emergency department with severe chest pain, diaphoresis and significant hypotension. His electrocardiogram (ECG) is shown below. Soon after this ECG was made he suffered ventricular fibrillation and was successfully defibrillated.



What is his diagnosis, and how would you manage his problem in your rural setting? See answer and discussion on [page 200](#).

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Country cardiograms case 6:
Biventricular acute myocardial infarction

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This paper has been peer reviewed.

See also:

- Letter: [Country cardios and Colles' fracture](#)
-

Findings

The ECG shows ST elevations both inferiorly (leads II, III and aVF) and anterolaterally (V1-V6), with reciprocal ST depression high laterally (I and aVL).

It is unusual to find ST elevation in more than 1 coronary artery distribution during acute myocardial infarction. The differential diagnosis of this ECG might include dissection of the thoracic aorta, pulmonary embolism, myocarditis and pericarditis. The clinical picture was otherwise very typical of acute myocardial infarction, however, so thrombolysis was appropriate.

Discussion

This patient was later confirmed to have had a large myocardial infarction. In spite of prompt thrombolysis the creatinine kinase peaked at 3600, and he suffered damage to the ventricular myocardium.

Figure 1 shows the record of an angiogram taken soon after the acute infarction. This figure explains why 2 coronary artery distributions were so profoundly affected. He probably had a long-standing occlusion of the left anterior descending artery (LAD). The myocardial distribution of the LAD was supplied by collateral circulation from the right coronary artery (RCA), but a proximal stenosis had developed in the RCA as well. The infarction was caused by acute total occlusion of the proximal RCA, affecting large areas of both the left and right myocardium.

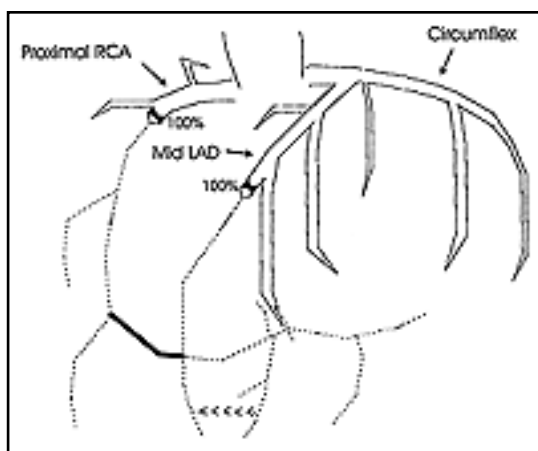


Fig. 1. Coronary angiogram showing the circumflex artery, right coronary artery (RCA) and left anterior descending artery (LAD). Total occlusions of the RCA and LAD are indicated by the solid triangles. Collateral circulation is indicated by the thick line between the distal RCA and the LAD.

A 15-lead ECG for this patient might have shown significant ST elevation in lead aVR, since the infarct occurred in the proximal RCA.¹ The significance of this finding in terms of management would be to avoid the use of sublingual nitroglycerine because it can cause profound hypotension in patients with proximal RCA infarction.

The patient suffered ventricular fibrillation, was successfully defibrillated and then treated with a thrombolytic in the rural hospital. Intravenous thrombolysis reduces mortality by about 25% in patients with acute myocardial infarction.² This patient probably survived not only because he was defibrillated but also because he was given thrombolysis so promptly in the rural hospital.

He was stabilized with intravenous lidocaine, intravenous dopamine and oxygen, then transported to an urban hospital by helicopter for further management. Both the right and left coronary artery lesions were treated successfully with stents placed during angioplasty. He was discharged home 2 weeks later in good condition and continues to improve.

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How to get the most out of rural medical life

Charles Helm, MD
Tumbler Ridge, BC

Tumbler Ridge is a coal-mining town (pop. 3500) in northeastern BC. It has 3 permanent family physicians.

Can J Rural Med vol 2 (4):191-92

A succession of near-burnouts and dramatic rescue/vacations is unsustainable in the long term for any rural doctor. Something is needed to make the "daily grind" more than just tolerable. Pleasure must be sought in the simple and the seemingly mundane.

It is not exotic holidays that will determine whether you are happy with rural life. It is weekends and daily leisure time. Make the most of these moments and find ways to get far away from your pager and telephone when you are not on call.

Rather than seeking out dramatic and exciting holiday destinations, return to your roots and go to visit your extended family, who are likely far away. There is nothing more important for your children on vacation than being with their grandparents and understanding where their parents were born and raised.

There may be a dearth of cultural activities in your community, but a good stereo, VCR and TV can minimize this. When a cultural event does come to town, it may not be the Three Tenors, but you will be there in the front row.

You need to explode the myth that a quarterly shopping siege of the big city is a must. North America is consumer heaven and its mail-order services are unparalleled anywhere else in the world.

Be nice to your hospital board. Remember that it consists of volunteers with good intentions, who perhaps don't have the background in the health field that you do. But if they threaten the well-being of your patients, stand your ground in a consistent fashion. Make sure that they are

accountable and do not make decisions in camera.

Be fair with your hospital administrators. Make it clear that any reasonable suggestions they come up with will receive your full support. Offer your insight wherever possible if it will help to reduce bureaucracy. However, if administrators mistake their priorities and cannot understand the needs of patients through the morass of budget constraints, spare nothing to expose this.

Get a good computer. With it you are not nearly as isolated as your predecessors were even a few years ago. Get on the Internet and participate in teleconferences.

Appreciate your office staff and be grateful that neither you nor they are unionized; your office will be a shining example of efficiency and the work ethic. Take delight in helping a genuinely ill patient after closing time, without watching the clock and demanding overtime pay.

Make sure your office has a massive picture window from which you can admire the mountains or the sunset. Because you may spend over 2000 hours a year in your office, it must be as happy and relaxed a place as possible.

Learn from your patients, and enjoy them. By virtue of sharing a remote location with you, most of them will be interesting folk, the salt of the earth; they can imbue you with wisdom and regale you with interesting tales. Strive never to become indifferent to their suffering, misfortune or pain.

Your patients' health is important, but your own health is just as important. Because you live in a rural setting in Canada you have access to unlimited clean air, with hiking, running and cross-country skiing opportunities that your urban colleagues have to travel hours to reach. Your physical fitness will not only be an example to your patients, but you will treat them better when you feel better yourself.

Pursue your hobbies with passion, make sure your family can share them, and don't underestimate their significance. Even though you may consider yourself average in your field of interest, chances are that in your region you are an expert and will be able to contribute something valuable. For example, an amateur ornithologist may find that no one had ever before noted bird sightings in such a remote area and that the provincial database desperately needs these records.

Get involved in your community; your education and skills will be of great value in a small town. The projects you succeed in seeing through to completion will be surprisingly satisfying and significant. But set limits on the amount of time you devote to these activities; your family is more important.

Your summers will be incredibly wonderful. You will be able to finish a full day's work at the

office and still have 6 hours left in which to hike to a swimming hole beneath a waterfall or canoe your favourite stretch of river. Push yourself hard these months to allow you and your family to enjoy the beauty of the wild unpopulated world around you.

Your winters will be long. Do not fight them. Fleeing to warmer climes leads to misery on your inevitable return. Make the snow your ally, not your enemy. Build a quinzhee* in your back yard, eat your meals there and study there; it will be the quietest place around. Ski to work. Ski every day. Take a 2-hour lunch break throughout winter, in which to ski and absorb sunlight. Find a cabin with a nice warm stove, where you can ski to after work with your family. Enjoy the solace of the silent winter woods. Your concrete-bound urban friends have no concept of the magic of these days or the quality of your rustic lifestyle.

Make a point of complaining loudly and bitterly in winter when the mercury creeps above the freezing mark and your carefully manicured ski trails become icy. When the roads get bad in winter, challenge yourself to count how many consecutive days you can thrive in your simple contented existence without the desire to be someplace bigger.

Above all, believe in yourself. It may seem at times that you are unappreciated, but steer a straight course, secure in the knowledge that you are doing a vital job that scares the daylights out of many urban physicians, one that no one else can offer as cost-effectively. Remind yourself that you can make a difference in the lives of your patients.

You are on the front line of medical care. Revel in this excitement, and regard the skill of stabilizing and transferring the critically ill or injured as a challenge. You are their bastion against death and disability, so make sure you are proficient in your life-support skills.

Remind yourself that the chances of a successful malpractice suit are directly proportional to the amount of specialized backup available. If you are prepared and do your best, there is little to worry about.

Thrive on your generalism. Any conceivable problem could confront you at any minute; you know enough of everything to get you by. Don't let anyone devalue this skill.

If you work reasonably hard, your income will support your whole family. You are thus in the privileged position where your spouse may choose to stay at home with the kids in their formative years. If so, value this work highly and praise it incessantly. Without your spouse's support, you are a lesser being. Nurture this relationship and never neglect it.

As long as you are there for them, your kids will grow up with a fine education that will include a fishing hole around the corner, a treehouse in the backyard and ski trails that start at their doorstep. Because you live so close to your office, you will be able to spend hours more with your kids each day. Remember that good parenting is more important than fancy schools.

The saddest patient I can think of is the one who said to me once: "This is such a terrible place, I am so bored here; all you can do here is work, enjoy nature and be with your family." As your patients' confidante, you must remain inscrutable and empathetic. So never let them realize that the statement that irritates you more than any other is: "I just can't wait to get out of this town!"

*Native Canadian word: a snow house or igloo-like shelter, made out of a huge mound of snow, left to settle and then dug into

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Chaos in the office

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We welcome any tales you might have about rural practice or any particularly interesting places that you have visited. Please send submissions to the Canadian Journal of Rural Medicine, Box 1086, Shawville QC J0X 2Y0.

What do you do when 1 of your 2 medical secretaries is on a long-overdue holiday and the other needs 2 hours off to go to a funeral on the only morning of the week when all 3 doctors are in the office and you have no other staff to take up the slack? With no back-up pool of medical secretaries a phone call away, as would be available in the city, often the only recourse for rural doctors is to rope in unsuspecting neophytes or family members. In this case, a spouse with a day off work but no experience in a medical office was asked to join a nursing student with 1 day of supervised experience under her belt.

It looked innocent enough at 9:30 in the morning when I arrived. All was peaceful and quiet. The secretary was explaining patient procedure to the student nurse. She was to do all the chauffeuring of patients to the examining rooms and get their vital stats. I would run the office.

Things were in full swing by 10:00. I'd learned how to swipe the card through the thingamy and stash it in the patient's file and then stack the files in order of appointment. Meanwhile, after a number of false starts, the nurse was getting confident at showing the right people to the right examining room for the right doctor to see.

At 10:15 the secretary left a peaceful, smoothly running office -- only 2 patients had arrived. "It'll be a breeze. Nothing to it," said the departing secretary, who didn't seem to realize how invaluable she is. It didn't take long for everyone else to find out. By 10:30 we were off the rails, as the waiting room filled up and requests to be squeezed in came at me like machine-gun fire. What was a novice to do? Each call sounded like an emergency. I pencilled them all in.

The 2 phone lines jumped into action with people asking for information they absolutely had to have but which I couldn't find or didn't understand. Try listening in on a conversation with a pharmacist reading out what he thinks the doctor wrote to someone who doesn't have a clue what the pharmacist is saying because he's talking in medical abbreviations. (QID? Quit In Disgust?) Or try being patient with someone who is calling for the fifth time in 15 minutes to recount his life history while Frank Sinatra croons full blast in the background.

Cradling the receiver on my shoulder I stuck both lines on hold while I tried to figure out what to do with a drug rep loaded down with samples and fielded requests from the doctors, ranging from "Where is so-and-so's allergy serum?" (where indeed?) to "Why is my patient in exam room 3?" or, worse, "Where is my patient?" Meanwhile, the 3 doctors either valiantly tried to pretend they didn't know that their office was being run by 2 complete neophytes or were totally blind to the simmering panic emanating from their very temporary staff.

One of the doctors was called away to the hospital for 15 minutes, and I was left to placate his patients, when the upstairs tenant burst upon the scene saying her pipes were leaking. The drug rep, cooling her heels in the back room, confirmed it by pointing to our ceiling, where a nice large wet stain was spreading. As I dialled a plumber I wondered if this was supposed to be part of the secretary's job.

Some of the folks in the waiting room were beginning to get antsy about having to wait, when a large, beefy woman staggered up to reception. She was cradling her jaw in her hand and mumbled something about a horrible toothache. All I could see was the grey pasty look of her face and the panicked look in her eye. It was contagious -- the panic I mean. I pencilled her into the already-well-pencilled-in schedule of her doctor, never suspecting that the doctor she asked for was not her doctor at all. Only an experienced secretary would be wise to the wily ways of desperate patients who think they are dying -- except that she looked as though she was dying. I finally collared her doctor and pointed her out to him. "Who the hell is that?" he asked. As the student nurse helped her into the examining room I got more nasty looks from those in the waiting room for letting someone jump the queue, especially someone it turned out no one knew. In everybody's hindsight I should have sent her to the dentist, pronto.

I tried to ignore the ominous sighs of growing impatience coming from the overstuffed waiting room and fielded another batch of phone calls, including the fifth one from the guy who wanted to tell me his history. As I was hanging up, the nurse came in, looking as harried as I felt. Mrs. Toothache had been sick and had collapsed on the floor of the examining room. We needed an ambulance. I picked up the phone and was nearly blasted away by Frank Sinatra. Only in the country can you still be connected to a caller if they forget to hang up! I reached for the second line before it could ring again and called an ambulance.

It was not until later that I learned that that was the only time in the long history of the office that an ambulance had arrived to take a patient to hospital. Of course it was all around town within

hours, every version of it from death by choking to a nasty midday mugging, to a false alarm, to the doctor making a huge blunder, to the stretcher getting stuck in the corridor on the way out, which, actually, it did. No word about the neophyte secretary jumping to conclusions and diagnosing impending death when it was just a toothache.

After the ambulance left there was an eerie quiet as the rest of the patients trooped in to see the doctors without a murmur of complaint, while I directed them to the right room and the student nurse cleaned up the third examining room. Even the phone had gone silent, and things looked so deceptively normal by the time the last patient left that when the secretary finally returned she took one look at the empty waiting room and said, "See? I told you it'd be a breeze."

Yeah. Right.

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Letters / Correspondance

Can J Rural Med vol 2 (2):118

CFPC-SRPC: hot-wired at last

For the first time, the College of Family Physicians of Canada (CFPC) has created a body devoted to maternity care issues and to strengthening the role of family physicians providing obstetric care. Rural and urban practitioners are working together to ensure that services are available to pregnant women in communities of all sizes.

The Standing Committee on Family Medicine Maternity Care was developed through the efforts of a number of people who made up what was originally called the Family Medicine Obstetrical Interest Group (see www.cfpc.ca/maternity.htm). The interest group has now developed a Listserv Maternity Care Discussion Group (CFPC-MCDG), which serves as a forum for serious discussion among family physicians providing maternity care, and in so doing also provides feedback to the CFPC Standing Committee on Family Medicine Maternity Care. Because a CFPC standing committee is made up of only 5 members from the usual regions, this committee needs to consult widely to be able to do its job. The interest group (now comprising almost 100 family physicians from all settings) and its Listserv perform that consultative function.

For example, in the weeks leading up to the 1997 Society of Rural Physicians of Canada (SRPC) conference on rural medicine in Banff, there were extensive discussions on the problems of providing maternity care in small communities. The discussions served to inform the conference participants about issues that were then discussed in Banff. As a direct result of the partnership that developed in Banff among the SRPC, the CFPC's Standing Committee on Family Medicine Maternity Care and the Society of Obstetricians and Gynaecologists of Canada (SOGC), the lists have been burning up the wires.

The CFPC-MCDG and RuralMed lists were essential vehicles for developing the agenda for the Victoria conference "Critical issues in rural maternity care." The specific question under discussion at that meeting was "What are the optimal conditions for the provision of high quality maternity care in small communities without immediate access to cesarean section?" Through passionate discussion, the question was broadened to the following: "Since the literature is

unambiguous about the safety of rural obstetric care, how can we support small rural communities so that they continue to provide high quality maternity care?"

Authors from both lists set out to develop a framework that they hope will lead to a flexible guideline, allowing recommendations for the provision of maternity care in such communities. Such a guideline must recognize that rural communities are heterogeneous in geography, climate, distance to transfer site, and technical and procedural capacity, and are subject to staffing uncertainties -- not to mention local political differences, community needs and desires.

It is obvious that, apart from discussions among the providers of health care, a true community consultation needs to take place so that those receiving the care understand all of the benefits and liabilities of their particular situation. That the SRPC, the CFPC, the SOGC and even the Canadian Medical Protective Association committed in Victoria to rapidly producing a joint guideline must be seen as a breakthrough.

Those of us who have been involved in this dialogue are excited not only about the content but about the speed with which information can be exchanged. In fact, the energy has been so great that "email fatigue" has affected some of us, as the perhaps artificial urgency of response and counter-response can create unwelcome pressure. Nevertheless, we will learn to manage this new beast, which we feel certain will lead to an improvement in care for rural women and a sense of accomplishment and genuine mutual support for those family doctors who have been working in the trenches for so long.

Those interested in participating in this dialogue are urged to join the Maternity Care Discussion Group by contacting me, Dr. Michael Klein (mklein@unixg.ubc.ca). We also urge you to participate in the Listserv of the SRPC (RuralMed; send email to jwootton@fox.nstn.ca). Dr. Stuart Iglesias is the SRPC liaison to the Standing Committee on Family Practice Maternity Care and has formed the SRPC Obstetrics Committee to assist with this important work.

In addition, the Standing Committee on Family Medicine Maternity Care has developed a committee to manage Advanced Life Support in Obstetrics (ALSO) in Canada, and members interested in participating in the development of a Canadian version of ALSO should contact Duncan Etches through the CFPC-MCDG list.

Future issues for the SRPC-CFPC-SOGC consortium include special training needs for rural family physicians, induction and augmentation in rural settings with various levels of immediate and not-so-immediate surgical back-up, electronic fetal monitoring by setting, the role of other procedures in various settings and political support for rural physicians in discussions with provincial regulatory bodies and regional boards. It's an exhausting but invigorating time. Join us.

Michael C. Klein, MD, CCFP, FCFP

The SOGC and the SRPC

The Society of Obstetricians and Gynaecologists (SOGC) has cooperated and supported the initiatives of the Society of Rural Physicians of Canada (SRPC) since its inception. The SRPC is a cornerstone for the medical care of hundreds, if not thousands of small- to medium-sized communities throughout Canada. The SOGC is committed to maintaining obstetrical services at the community level as close as possible to the patient's community, while at the same time developing a system of regionalization that will maintain high quality obstetrical services and prevent maternal and neonatal morbidity and mortality.

The SOGC will foster a close relationship with the SRPC and ensure that it is consulted when SOGC policies are developed that could affect rural obstetrical practice. The SOGC is also committed to working with the College of Family Physicians of Canada (CFPC) to further the objectives of the SRPC.

Crisis in Canada

At the present time, Canadians are faced with an obstetrical crisis. There is a temptation by governments to substitute the excellent care provided by physicians with nonphysician personnel. Through the help and dedication of thousands of physicians -- family physicians and gynecologists -- we are now the envy of the world in terms of maternal and perinatal morbidity and mortality. However, closure of hospitals, especially community hospitals in semi-urban and urban areas, is a policy for disaster. For example, cities such as Ottawa and Quebec City have reduced community obstetrical services so that access to personalized care and community involvement will soon be greatly reduced or nonexistent.

Reimbursement in Canada does not address the time, expertise and risks involved in delivering high-quality obstetrical services. Provincial governments and provincial medical associations will have to be lobbied and pressured to address these issues in an urgent manner. There are no specialty services in Canada with lower reimbursement schemes than obstetrical services. Midwifery reimbursement is being established in various provinces for normal obstetrical delivery at double or triple the reimbursement allocated to physicians. There is great difficulty in convincing provincial medical associations to allow consultation fees for cases referred by midwives.

The medicolegal crisis in Canada, with its high insurance rates for obstetrical services, presents a unique problem to both specialists and rural physicians. There is no provision for start-up costs, therefore, a rural physician with a low number of patients pays the same price as an urban physician with a large practice. This is also a problem with those on maternity leave or those who are participating in on-call services only. Physicians who provide on-call services in obstetrics for a rural physician group should have the same coverage as a physician with a busy practice,

even though, in a rural setting, only a few patients may be cared for. The fact that this is not the case discriminates among physicians and practice patterns and makes obstetrical practice in rural Canada unappealing. This has led directly to the current medical manpower crisis in Canada.

Manpower crisis

The obstetrical workload for specialists has increased 50% during the last 10 years, with no increase in the number of gynecologists. Furthermore, the average age of gynecologists is 52 years. One-third of our work force will be retiring in the next 10 years, leaving Canada in short supply of obstetricians/gynecologists by the year 2010. The difficulties of obstetrical practice in rural communities, coupled with crippling medicolegal costs, have led family physicians to abandon obstetrical practice across Canada. This has had disastrous results, including an increased workload for gynecologists, decreased recruitment of family physicians in obstetrics, decreased access to community and rural obstetrical care and decreased opportunity for family medicine resident training in obstetrics by community physicians.

SOGC guidelines

The SOGC has a strong mandate to develop clinical practice guidelines in obstetrics and gynecology. We are fulfilling this mandate and have merited, throughout the years, a high reputation. Our guidelines are prepared by specialists in collaboration with family physicians, patients and other interest groups. The future model, proposed at the SRPC's annual conference in April 1997, is a closer association with the CFPC and the SRPC in the development of particular guidelines. The CFPC and the SRPC would form committees that could respond effectively in a very short period of time in this consultation process. When issues are of particular interest to rural physicians, the SOGC would include representatives from the CFPC and the SRPC as regular committee members. The CFPC has also formed a committee on a permanent basis. This should lead to better understanding and increase cooperation among the 3 organizations. Dr. Guy-Paul Gagné of the LaSalle Hospital (Quebec) will represent the SOGC on the CFPC maternity care committee.

SOGC policy

The SOGC Council (the governing body of the Society) has a family physician as a voting member. This family physician is elected by family physicians from the Associate Membership of the SOGC. This, in itself, provides for input from family physicians. Our guidelines are developed from evidence-based medicine, by thorough research of the literature and the Cochrane Database. All our guidelines, which are policy statements of the SOGC, are sent to our Council prior to their approval.

SOGCnet

The SOGC Network can be "hot-linked" with any other network, and we would be pleased to offer our Internet link to the SRPC Web site. This way, SRPC members could access SOGC guidelines rapidly and without cost. The guidelines and patient education material can also be downloaded, utilized, reprinted and photocopied at no cost. The objective is not to make money with our guidelines, but to have them widely distributed and available to physicians and communities.

The SOGC guidelines are living documents. When a guideline is published, the rural community group should bring it up at its next regular meeting, discuss the guideline, and adopt or modify it according to local needs and circumstances. This should be documented and kept in the obstetrical unit. Feedback on all guidelines should be sent to the National Office, which will transmit the comments when updating a particular guideline. Guidelines are not there to limit practice, but to provide a scope of practice for physicians to access the best possible advice in Canada. SOGC guidelines are not set at a minimum standard as seen in other countries, but are "best practice models," in order to provide the best possible care to Canadian women.

Conclusions

The SOGC has never spoken nor intends to speak for family physicians or rural physicians. We intend to work with physicians and Canadian women in order to come up with the best possible options for the best and most appropriate care. The SOGC supports the SRPC and would be pleased to help it in any way to develop its expertise in obstetrical care. The SOGC will look at current issues in rural obstetrics, such as delivery of obstetrical care in hospitals without cesarean section capability, induction with oxytocin and prostaglandins, training in cesarean section capability for physicians in remote areas and other issues of concern to family and rural physicians. In the end, whether we agree or disagree, informed consent and evidence-based medicine will bring us together to offer the best possible options or alternatives available to Canadian women so they may make informed choices for their personal health.

André B. Lalonde, MD, MSc, FSOGC
Executive Vice President
Society of Obstetricians and Gynaecologists of Canada

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Obstetrics a hot topic

Can J Rural Med vol 2 (4):197-98

RuralMed has been so busy over the last 6 months that it is impossible to précis all the threads. At a May conference in Victoria, which was dedicated to rural obstetrics, a spirited and informative "work in progress" project was instigated (see CJRM, vol. 2[3], page 118 [[full text](#)]). Rural doc delegates agreed to create, jointly with the Society of Obstetricians and Gynaecologists of Canada (SOGC), the College of Family Physicians of Canada and the Society of Rural Physicians of Canada, a policy statement that would "confirm that maternity care in rural communities, with and without cesarean section capabilities, is appropriate and associated with good outcomes." This "living" document (which spanned 2 discussion groups -- RuralMed and the CFPC obstetrics group) spawned numerous comments, suggestions, criticisms, anecdotes and discussion of natural disaster scenarios. Watch for the final version to be published in an upcoming issue of CJRM. The same group is working on adapting/adopting SOGC guidelines for rural areas. (See also letters section, [page 166](#).)

Another active thread was triage and the various proposals and time lines (unrealistic for rural areas, it was decided) being considered by the Ontario government and by the Canadian Association of Emergency Physicians. This topic stirred up plenty of comment by "RuralMedders." The nurse's role in triage was explored, including the considerable variation in triage decisions, depending on a nurse's experience. This led to a discussion of the pros and cons of replacing physicians with nurses in the role of surgical assistant and the effect it would have on rural docs. The consensus was that although it is good for academic and social interactions for doctors to assist, many do not have the time. Nurses can then take up the slack.

Other threads touched on rural medicine as a distinct discipline; the Royal College rule changes (see RuralMed, CJRM, vol. 2[2], page 92 [[full text](#)]); discussion of the merits (or lack thereof) of a 3rd year of training for rural residents and how best to train them; the restrictive conditions on reentry training; rotating internships; incompetent rural locums; guidelines for stroke victims; and the perpetual topic of training and undergrad education in the retention of rural docs. One RuralMedder suggested an equalization tax on the fee schedule of all docs in overserved areas. This money would then go to underserved areas to be used for CME and locums.

Medicolegal problems were discussed in terms of the responsibility of doctors to report people unfit to drive, especially elderly or cognitively impaired patients. One doctor stated: "I too have tried to balance some appreciation for the independence of elderly patients against the knowledge of the dramatic effects that can be produced by an 'unguided' 1000-kg missile on any public highway -- and do all this from the safety of the desk in my office!" When he felt that one of his elderly patients was unfit to drive, he wrote to the Ontario Ministry of Transport to suggest a licence suspension. The patient objected and had to take a driver's evaluation. The nearest centre was 1300 km away, in Sudbury, and he had to drive because he could not afford to fly. The examining occupational therapist wrote to say the patient had had two near brushes with death during the testing, one only prevented because she was able to use the examiner's brake pedal to prevent them from ploughing into a school bus. After the test, he drove home. His licence was not suspended until a month later. This RuralMedder stressed the need for mandatory local testing. Ethical issues, the difficulties of reporting a patient and the legal obligation to do so were discussed. Lack of driver categories affects elderly drivers in rural areas. They may be perfectly safe negotiating rural roads and small towns but unsafe on highways and in the big cities. Graded licences for these people would be a kindness because getting about in rural areas is difficult without a car. If in doubt, get a local driver-teacher to take the patient out or send them to be assessed by your province's licencing body.

Sign up to RuralMed and join these ongoing discussions.

Subscription to RuralMed is by request to the listowner. Send an email message to Dr. John Wootton at: jwootton@fox.nstn.ca

Include your full name and email address. If you include a short biography it will be posted to the list as your introduction. You can also access both the RuralMed archives and a RuralMed subscription form through the SPRPC home page at: www.gretmar.com/srp/home.html

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Literature

Littérature scientifique

Can J Rural Med vol 2 (4):199

The effect of semi-automatic external defibrillation by emergency medical technicians on survival after out-of-hospital cardiac arrest: an observational study in urban and rural areas in Belgium. Calle PA, Verbeke A, Vanhaute O, Van Acker P, Martens P, Buylaert W. *Acta Clin Belg* 1997;52(2):72-83.

Semi-automatic external defibrillators (SAEDs) are becoming increasingly common, and in many rural areas this link in the cardiac "chain of survival" is being implemented. It is therefore of interest to follow the literature on the outcomes of these interventions. In Belgium, Calle and colleagues studied outcomes in both rural and urban areas.

In Gent, Belgium, ventricular fibrillation/tachycardia treated by SAED resulted in a 21% survival rate, in contrast to the 2% survival rate in patients with electromechanical dissociation. In Aalten, survival statistics were much worse (although based on small numbers), with none of the 21 patients surviving. In Brugge, the results were similar to Gent. Overall, the authors found the results disappointing and urged that "more efforts are needed to strengthen the other links of the chain of survival: early access to the emergency medical services-system, early basic cardiopulmonary resuscitation and early advanced life support."

Day-case adenoidectomy: How popular and safe in a rural environment? Siddiqui N, Yung MW. *J Laryngol Otol* 1997;111(5):444-6.

Rural hospitals have not been immune to bed closures, and in many areas they have been specifically targeted. To maintain services, one administrative response is to encourage day surgery. Many procedures previously carried out on an in-patient basis are increasingly being found on the day surgery schedules. When is this safe?

Siddiqui and coworkers examined day-surgery adenoidectomies. The risk of postoperative

bleeding has caused some reluctance on the part of doctors to perform this procedure on an outpatient basis, especially in rural areas, where travel times may be increased. They compared approximately 200 cases treated either as inpatients or outpatients. They found that "the children in the day-case group recovered post-operatively even better than the in-patient group. None of them stayed overnight or required re-admission. There was no increase in post-operative consultation to the general practitioner."

In addition to these clinical benefits, they found that 88% of parents favoured this arrangement. This report should provide encouragement to rural hospitals seeking to maintain services in the face of increasingly stretched in-patient resources.

Regional variation in nonmedical factors affecting family physicians' decisions about referral for consultation. Langley GR, Minkin S, Till JE. *Can Med Assoc J* 1997;157(3):265-72.

Rural physicians have long known that their practice style differs from that of their urban colleagues. However, quantification of this difference has been rare. One area recently studied in Canada is the factors affecting referral and consultation. Langley and associates studied the regional variations in Nova Scotia in nonmedical factors affecting referral decisions. Using a selection of hypothetical cases, they found significant differences between urban and rural physicians. Overall, rural physicians referred half as often as those living in urban areas, and for some conditions the difference "was more than 7-fold." The authors caution that their study did not assess outcomes, and thus they could make no comment on possible differences in the quality of care resulting from these differences in referral rates. This information would be of significant interest and usefulness to both rural physicians and the physicians to whom they refer.

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Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison

Table 1. Number and percentage of the 9 procedures recommended by the CDA performed by rural and urban physicians (Newfoundland 1995)

CDA procedure	Group, no. (and %) of patients	
	Rural (n = 70)	Urban (n = 48)
Blood pressure check	70 (100.0)	48(100.0)
HbA1C measurement	26 (37.1)	37 (77.1)*
FBS/RBS measurement	70 (100.0)	48 (100.0)
Cholesterol measurement	42 (60.0)	32 (66.7)
Weight check	61 (87.1)	37 (77.1)
Urinalysis	36 (51.4)	33 (68.8)
Foot examination	19 (27.1)	18 (37.5)
Eye examination	17 (24.3)	17 (35.4)
Ophthalmologist referral	34 (48.6)	30 (62.5)
No. of the 9 recommended procedures performed		
Mean	5.36	6.25†
Median	5.0	6.0
Significant differences between rural and urban samples are indicated by *p < 0.001 and †p < 0.01.		

Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison

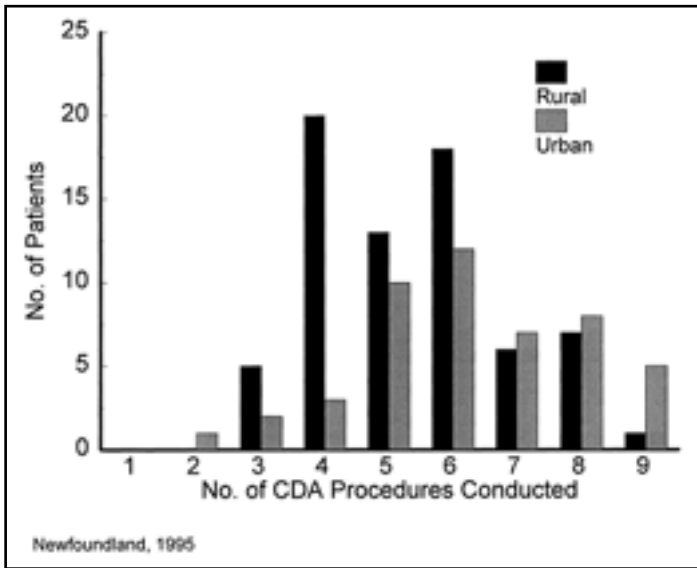


Fig. 1. The frequency distribution for the number of patients and the 9 Canadian Diabetes Association (CDA) procedures conducted in our sample of 70 rural patients and 48 urban patients having NIDDM.

[[Return to text](#)]



Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison

Table 2. Number and percentage of other physician management parameters associated with rural and urban physicians (Newfoundland 1995)

Parameter	Group, no. (and %) of patients	
	Rural (n = 70)	Urban (n = 48)
Mean no. of visits to a physician	12.3	13.8
Mean no. of blood tests	3.2	4.0*
Type of treatment		
Diet alone	14 (20.0)	11 (22.9)
Insulin	9 (12.9)	14 (29.2)†
Medication	47 (67.1)	23 (47.9)†
Neurologist referral	6 (8.6)	8 (16.7)
Nephrologist referral	5 (7.1)	6 (12.5)
Dietitian referral	20 (28.6)	29 (60.4)‡

Significant differences between rural and urban samples are indicated by *p < 0.025, †p < 0.05 and ‡p < 0.001.

[[Return to text](#)]

Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison

Table 3. Level of control of NIDDM (CDA standards) and the mean HbA1C, RBS, FBS and cholesterol levels for rural and urban patients (Newfoundland 1995)

Parameter	CDA recommendation	Group, no. (and %) of patients	
		Rural	Urban
HbA1C*	--	0.079	0.081
Mean	< 0.0825	16 (61.5)	20 (54.1)
Type of control:	less than or equal to	7 (26.9)	12 (32.4)
Optimal	0.105	3 (11.5)	5 (13.5)
Acceptable	> 0.105		
Compromised		10.18	11.15 mmol/L
FBS	--	mmol/L	
Mean			4 (10.8)
Type of control:	4-7 mmol/L	6 (17.6)	13 (35.1)
Optimal	less than or equal to 10	12 (35.3)	20 (54.1)
Acceptable	mmol/L	16 (47.1)	
Compromised	> 10 mmol/L		10.91 mmol/L
RBS		10.86	
Mean	--	mmol/L	19 (43.2)
Type of control:			13 (29.5)
Optimal	5-10 mmol/L	27 (42.9)	12 (27.3)
Acceptable	< 12 mmol/L	15 (23.8)	
Compromised	> 12 mmol/L	21 (33.3)	6.02 mmol/L
Total cholesterol			
Mean	--	6.08	9 (28.1)
Type of control:		mmol/L	11 (34.4)
Optimal	< 5.2 mmol/L		12 (37.5)
Acceptable	less than or equal to 6.2	13 (31.0)	
Compromised	mmol/L	10 (23.8)	

> 6.2 mmol/L

19 (45.2)

Percentages represent proportions of patients who had measurements taken, not of the total rural and urban patient samples.

*Normal range in the study laboratory was 0.030-0.075. Optimal, acceptable and compromised levels represent < 110%, less than or equal to 140% and > 140% of the upper limit value (0.075).

[[Return to text](#)]



Compliance of rural and urban family physicians with clinical practice guidelines for non-insulin-dependent diabetes: a comparison

Table 4. Number and percentage of rural and urban patients with NIDDM who had complications with respect to their diabetes (Newfoundland 1995)

Complication	Group, no. (and %) of patients	
	Rural (n = 70)	Urban (n = 48)
Retinopathy	11 (15.7)	10 (20.8)
Albuminuria	11 (15.7)	8 (16.7)
Renal failure	1 (1.4)	3 (6.3)
Neuropathy	6 (8.6)	9 (18.8)
Foot sores	3 (4.3)	0
Limb amputation	2 (2.9)	0

[[Return to text](#)]



SMA survey of rural physicians

Table 1. Distribution of Saskatchewan rural physicians and survey respondents, by origin*

Origin	% of total	
	All rural physicians	Survey respondents
Africa	40.4	42.1
Saskatchewan	22.5	23.8
United Kingdom	21.1	21.4
Other Canadian provinces	7.5	6.3
Asia	7.0	4.0
Continental Europe	0.9	1.6
Central/South America	0.5	0.8

*Place of residence when first medical degree obtained
 Source: Saskatchewan Medical Association database

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SMA survey of rural physicians

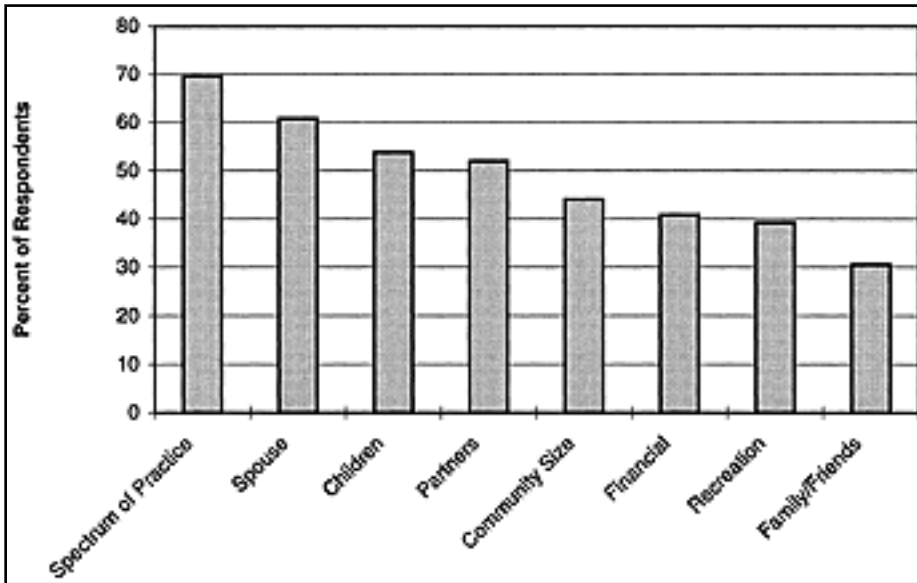


Fig. 1. Frequency of rural lifestyle characteristics rated as very important or extremely important.

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SMA survey of rural physicians

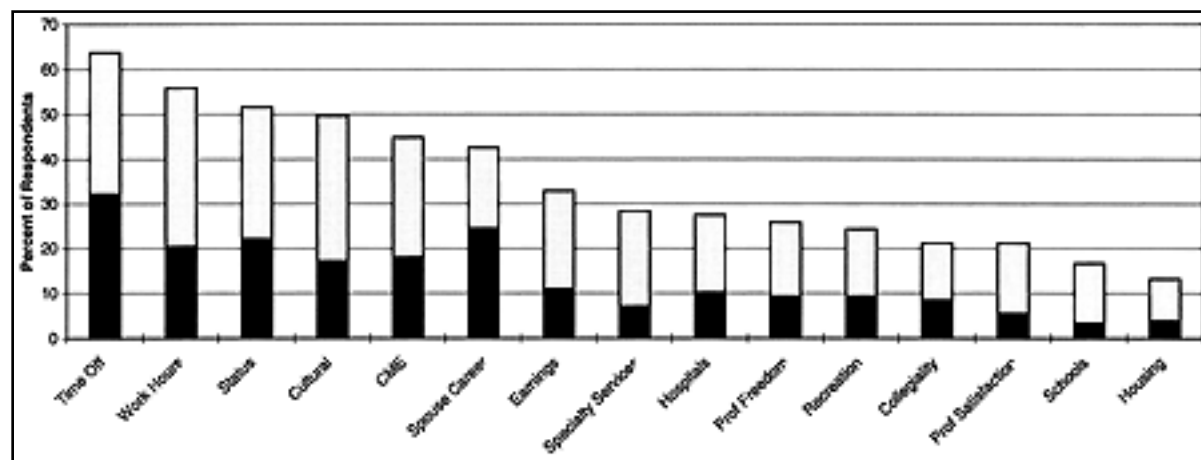


Fig. 2. Rural practice characteristics with which physicians are dissatisfied or extremely dissatisfied.

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SMA survey of rural physicians

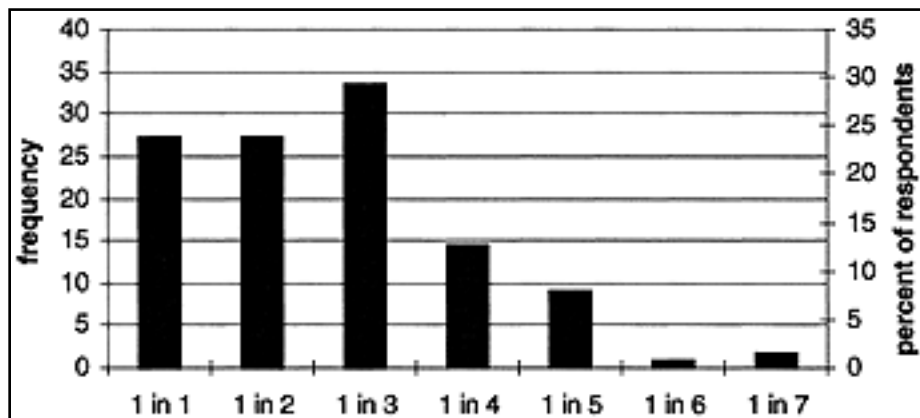


Fig. 3. On-call arrangements of rural physicians.

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SMA survey of rural physicians

Table 2. Sources of physician satisfaction according to Saskatchewan Medical Association (SMA) survey

Source	Top source, no. (%)	In top 3 sources, no. (%)
Professional satisfaction	24 (19.8)	52 (14.7)
Professional freedom	18 (14.9)	52 (14.7)
Availability of acute care facilities	18 (14.9)	40 (11.3)
Housing	16 (13.2)	41 (11.6)
Specialty services	8 (6.6)	20 (5.6)
Earnings	7 (5.8)	26 (7.3)
Collegiality	6 (5.0)	20 (5.6)
Schools	5 (4.1)	17 (4.8)
Recreation	5 (4.1)	28 (7.9)
Work hours	3 (2.5)	10 (2.8)
Time off	3 (2.5)	14 (4.0)
Spouse career	3 (2.5)	12 (3.4)
CME	3 (2.5)	12 (3.4)
Other	2 (1.7)	4 (1.1)
Status	0	4 (1.1)

Cultural	0	2 (0.6)
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SMA survey of rural physicians

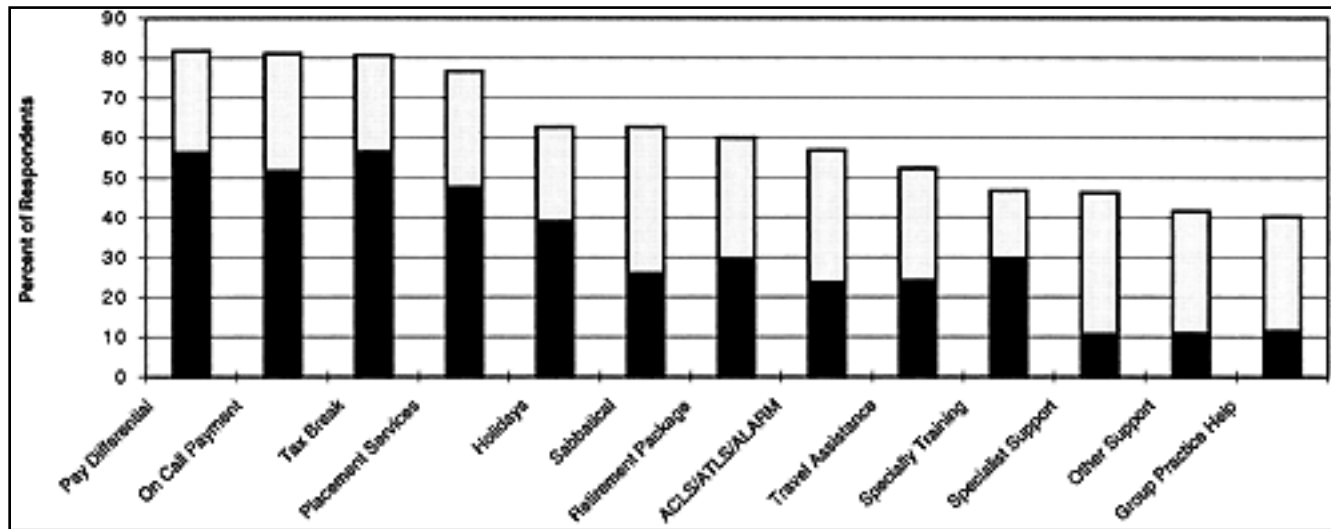


Fig. 4. Frequency of incentives identified as very important or extremely important.

[[Return to text](#)]



SMA survey of rural physicians

Table 3. Career plans of SMA survey respondents			
Career plan	Within the next year	Within the next 3 yr	Within the next 5 yr
Continue in present practice	113	72	43
Retire	2	9	10
Practise in a larger rural Saskatchewan community	6	8	5
Practise in an urban Saskatchewan community	3	8	11
Practise in another province	7	20	15
Practise in the US	5	14	10
Specialist training	3	6	9
Other	0	4	3
Total*	139	141	106
Summary			
Remain practising in rural Saskatchewan	119	80	48
Move, retire or retrain	20	61	58
*May not total 127 due to multiple responses			

[[Return to text](#)]

